SAFETY

Spring is a busy time for outdoors-loving Pennsylvanians. The sun’s warming rays provide a high level of attraction, luring young and old outdoors. Sucker fishing is a fine way to shake off the winter’s staleness and, of course, the opening of trout season in mid-April really announces the coming of Spring. Smaller fishing streams are usually moderately high, lightly colored and just right for fishing. However, our larger streams and rivers often continue to run almost bankfull and carry heavy loads of silt and debris through most of April. Thus, while April is a month of nature’s beautiful reawakening it is a time for extreme caution for those who venture onto the swollen muddy rivers and large streams by boat.

Each Spring many unnecessary tragedies occur when the unwary fisherman or pleasure boater goes for that first trip afloat for the season. Strong currents and submerged logs hidden by muddy waters provide serious safety hazards that can and do set the stage for capsizings and sinkings. A ducking in April can mean real trouble and possibly result in the loss of life. Cold water, heavy clothes and strong currents can defeat the strongest swimmer. The scarcity of other boats operating in the early season may leave the capsized boater with little chance of prompt rescue.

Certainly no one wants to add his or her name to the list of accidental drownings. Observations of ordinary water safety rules, honest recognition of your own boating skill and the capability of your boat and boating with a buddy, especially on strange waters and during cold weather, can help assure your trips afloat are two way—out and back in safety.
PENNSYLVANIA ANGLER

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D. THOMAS EGGLE, EDITOR

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TOYS—

Gentlemen:

The snowmobile, which you examined with evident appro­val in the January issue, may have limited value as a rescue vehicle, or to a true outdoorsman who has lost one or more legs, but otherwise it is simply the latest mechanical toy of a too affluent society which has already gone dangerously soft and decadent.

Taken with all the other trail vehicles and the inevitable flying pack now in the experimental stage, this noisy and unpleasant machine represents the ultimate threat to our beleaguered wilderness values.

Use of all trail machines on public lands should be severely restricted.

Ed Van Dyne, Troy

MORE “FLY TYING”

Dear Sirs:

I can’t tell you how much I enjoy the new fly-tying department in the Angler. I feel that this fine magazine needed it for a long time.

However, if I remember correctly, in a past issue you stated that it would continue for only a short while. To me this is wrong. If Pennsylvania is to get away from the market fishing era, then fly tying and fishing is all too important. Don’t misunderstand me, I’m not criticizing spinning and bait fishing, if that’s what another angler enjoys. I’m merely stating that we need more sport fishermen and this is where fly tying comes in. I need not go into detail on how satisfying it is just to catch fish on a fly you’ve tied.

Therefore, may I offer a suggestion. Why not continue the fly tying department indefinitely? If Mr. Lively found it to be too much of a responsibility to write directions for a different fly every month, then perhaps different people could send in their stories. This way you would have people from all over the Commonwealth contributing patterns that are effective in their areas.

Mark Volk, Irwin

TAKES EXCEPTION—

Gentlemen:

In the December issue of the Pennsylvania Angler Mr. Buss’s reply to a letter from Mr. Ronald S. Kommer of Darlington is too disturbing to pass over.

First of all I take exception to the assertion that even good self-sustaining streams 90 percent of the fish have been stocked. I would like to remind you of the fish-for-fun regulations on the Left Branch of Young Woman’s Creek as it was managed from 1958 to 1963. If my information is correct, only 2,035 adult trout were initially stocked along with 965 fingerlings in 1958 and a thousand more fingerlings in the waning days of its termination. “Natural spawning of trout was successful and apparently this contributed significantly to fishing success on the stream. I recall we electrofished the stream in about 1960 and found a very attractive population of trout.”

The quoted material is taken from a recent letter in which Gordon L. Trembley, Assistant Executive Director of Fisheries answered my questions pertaining to the Left Branch. Although he does not specifically say so, I judge that stream production generously exceeded the ten percent that you would allow as stream bred fish. The Letort is perhaps an even better example of a self sustaining trout population, and it owes its success entirely to the absence of state management.

Next, Mr. Buss seems to think that Mr. Kommer’s suggestion to lower the size limit on fish-for-fun waters is unreasonable because “the Fish Commission could not afford to stock all 15 and 16 inch fish.” Under the present regulations where a trophy fish is defined as a trout of 20 inches or longer, I was unaware that only trout of trophy size were being stocked in fish-for-fun waters. This is particularly disturbing since the average size of the fish I have taken on these projects has averaged scarcely more than a foot long. The obvious point of Mr. Kommer’s suggestion which Mr. Buss apparently missed was that a lower size limit would not seriously damage the fishing since it would protect the most valuable catchables, those fish of fourteen
w

^, streams as Mr. Buss says—we are in fact grateful for
t . . ever crumbs are left to us in this mad society of super-
tlemen:
AQREES 100%

ty-t
t finished reading the December issue of the 
Penna on people who take trout on bait. I have been
10QI ^ 0m e fishermen who only use artificial lures—flies—
Sp %, a streamer, a few on dry flies, night crawlers,
a
This is my own flies for steelhead now, but after sev-
eral trips have not received a strike. My fishing partner is
probably the best steelhead fisherman in this area. He
takes and releases over 100 every year still he looks down
on some of the steelhead fishermen who take steelhead on
cluster eggs and worms. Why he feels this way I don't
know for he will take more steelhead in a year than 98%
of the fishermen who use other bait.

I've enjoyed reading Mr. Buss's article about the fishery-
program very much. I also enjoy reading the "Casting with
the Co-ops" series. I'm sure these clubs are a great help to
trout fishing in Pennsylvania. I never heard of anything
like that out here.

Another gripe I have about some fishermen is that they
complain about the Fish Commission all the time. And
from the pictures each month of the fine fish caught in your
state I think Pennsylvania has excellent fishing of all kinds.

We have a very fine Department of Game here, but like-
wise some hunters and fishermen gripe at them all the time.
Your grippers all should remember trout fishing is fun, no
matter how and where you take them.

Edward Naughton, State of Washington

A GOOD LOOK

Gentlemen:

Today, after a lapse of 11 months, I'm again a subscriber.
I knew last year at this time that my subscription was due
for renewal but put it off until . . . SUDDENLY, no Angler.
Now that it is finally back, I realize what I've been
missing! I can safely assure you that it won't happen
again.

After reading the Angler from cover to cover and digest-
ing it all, I went back to the monthly letters section to make
sure that the letter I read from Mr. Ronald Kommer,
directed to Mr. Buss, was for real. I read it again, and again,
and again. CONSENSUS? 15% for Mr. Kommer and 85%
for the Fish Commission. In defense of my math figures, I
submit this, both to Mr. Kommer and/or the Commission
and the Angler, for I hope you will print this rebuttal as
soon as possible.

I LOVE TO FISH! I place this sport above all others—
bar none! To fish the way I like to, I travel about 400 miles
from Buffalo, New York to Hughesville, Pennsylvania to
pick up my fishing partner. You're probably wondering
why I travel so far when Lake Erie and the Niagra River
are at my front door? Here are the reasons. 1. FLOATING
AGE. 4. FLOATING SANITARY SEWAGE. 5. MASSES
OF FLOATING, BUBBLY DETERGENTS. 6. IL-
legally dumped TOXIC CHEMICALS, and most
important of all: 7. NO EATABLE, FIGHTING, TROPHY,
or PENNSYLVANIA ANGLER FISHING CITATION
SIZE FISH!

But, let's not stop here. I was born and raised in Penn-
sylvania and relish fishing there. I've taken Canadian
trips, fished in one of the north's most productive bass lakes,
and taken a few stints to the Finger Lakes. But strangely
enough, I have NEVER (let me repeat that), NEVER pro-
duced in any of these places a 6 pound 4 ounce small-
mouth bass, a big muskie, a nice brookie or a big brown
trot with the exception of one place. You guessed it—
PENNSYLVANIA!

You have the best and the most—and for what? Well,
for the price of a $5.00 fishing license. (It costs me $9.50.)
So now Mr. Kommer—and to the folks who side with you
—let me close with this. Take a real good look around
you the next time you're on one of those fish-for-fun
LEAKY BOOTS

continued

streams. Wade around in some of that clean, cool water, and from time to time, bend over and take a long satisfying drink. Then cast your Light Cahill into the stream, have a good long fight and then mail me a picture of that trophy trout—you know, the one that was stocked a couple years back by that same Fish Commission you call politically oriented and the creator of mob scenes. Their job was nursing that trophy fish of yours, not that I want to leave out the fact that they always seem to be handy to nurse a few grumpy anglers too.

If I sound bitter, it’s only because I am. I have no personal quarrel with Mr. Kommer and I fully realize that he may be in the enviable position of being “too good” an angler. My sincere love for the sport and my wish that my children and grandchildren may enjoy the trout and other game fishing made available to me by YOUR OWN Pennsylvania Commission makes me write this letter. And finally to you, THE PENNSYLVANIA FISH COMMISSION and the great publisher of the ANGLER, let me say this: Don’t ever let me read in any issue, the words “We try harder.” You don’t need to. With the way you both operate, you’ve got to be Number One.

Thanks for listening. I think I’ll sharpen the hooks on my lures as soon as I mail this!

—Ronald E. Poust, Buffalo, N. Y.

IT’S “OLD HAT”

Gentlemen:

Enclosed is a check for $5.00 for the Angler for another 3 years. I cannot praise the Angler too much for so far as I am concerned it’s tops in its field. You fellows are sure doing a wonderful job!

I was going to write you about the enjoyment I had during the extended season, but the answer that Keen Buss had in the last issue in answer to Ronald S. Kommer, expressed my opinion much better than I could myself. He certainly is correct. The special fishing areas are full of trout, because they are put there by the Commission. It’s getting to be “old hat” to write every year and say that you are all doing a good job, but I just cannot help to say it again. I had a most wonderful season, right up to the end of October.

H. E. “Frenchy” DuBoux—DuBois

PATIENCE, ENTHUSIASM

Gentlemen:

On weekends and during the weeks of the summer vacation it’s interesting to see the enthusiasm my 13-year-old son has for fishing. He puts everything into it—especially patience, which one must have a lot of in order to catch “the big ones.”

And when winter came he filled the rather long and sometimes uninteresting evenings by making jigs.

In the October issue of the Pennsylvania Angler an article titled “S.O.P. For Catching Walleye” made him decide to try to make some of his own. After talking to his uncle, who is a great fisherman, he found he had access to some equipment needed for making jigs.

He has a small workshop all of his own where he can work. A vice is screwed to a table that securely holds the lead-headed hooks. Bucktails have been obtained from hunter friends and dyed to make colorful jigs if desired. A little paint, lacquer, razor blade, thread and bobbin add to the necessities of this hobby.

For three years we have been fishing (as a family) and have received the Pennsylvania Angler and we think it’s a great magazine. Every page is read and re-read and incidentally all the issues are kept for future reference.

Mrs. L. Baumgartner, Sharon

NEARLY ANOTHER

Gentlemen:

I am writing you once again with a little fishing information for the Angler.

Enclosed is a photograph of a northern pike that I caught on July 30, 1968 at Conneaut Lake. It does not quite qualify me for a Senior Citation because it was 34½ inches while a northern must be 36 inches.

This fish was an even 12 pounds and hit on a large minnow fished on the bottom. My brother Al netted him for me and as soon as he landed on the bank, he tore through the bottom of the net. We promptly rode into town that afternoon and bought a new net, but the only use we had for it on the balance of our vacation was to land a snapping turtle of eighteen pounds.

This brought me close to my second Citation, having been a winner in July, 1967.

In closing, let me say I really enjoy reading my Pennsylvania Angler every month. Keep up the good work!

Verne A. Rihs, Pittsburgh

And the picture of Mr. Rihs with his nice northern appears in the Fish Tales section of this issue.

AN EMPTY CREEL—

Dear Mr. Bielo:

If there was a slogan that one might try to impress upon the fishing public it might run something like this: “DON’T BE A HOG—THE SECRET OF GOOD FISHING IS AN EMPTY CREEL.”

So far as I am concerned, the pleasure of fishing is in the catch, not in the keeping, and for this reason I take off my hat to the Pennsylvania Fish Commission, to the landowners, to Patrolman Perry Heath, and to the Yellow Breeches Anglers for the establishment of the Fish-For-Fun Area at Boiling Springs.

I have fished this area for quite a few years. Last year, however, I spent nearly all my fishing hours there, and they were many, and never had I a season like it. Congratulations! Don’t change it! For I hope to spend many more hours there this coming season.

Gerald P. Nye, Harrisburg
COMING - - -

SUPER EDITION—
HERE IT IS—YOUR 1969 SUPER SIZE, PENNSYLVANIA ANGLER! IT'S SIXTY FOUR PAGES BIG, JUST TWICE THE SIZE OF OUR REGULAR ISSUES. YOU'LL FIND IT FILLED WITH A NUMBER OF INTERESTING AND MEANINGFUL ARTICLES. WE HOPE YOU ENJOY IT!

NEW OPENING HOUR

Keep in mind that this year trout season opens Saturday, April 12 AT 8:00 A.M. INSTEAD OF AT 5:00 A.M. AS IN THE PAST. The new opening hour was set by the Commission when numerous complaints were filed by property owners after fishermen camped, built fires, and littered private grounds throughout the night as they awaited the 5:00 A.M. opening last year. It is hoped the later starting hour will discourage overnight waits along the waterways by fishermen—and ultimately keep some of that ground open to public use which, with another pre-opener night of abuse, might be closed.

WILDWATER EVENTS

This is the “coming out” season for white water enthusiasts and many Angler readers may want to watch, if not participate. On March 30 the Loyalsock International Wildwater Race at World’s End State Park will get underway. April 5 the Red Moshannon Wildwater event on Moshannon Creek from Grassflat to Route 53 will be held while April 12 and 13 the Junior and Scout Slalom (for those 18 and younger) will begin one mile south of Reedsdale on the Kishacoquillas. And then on April 26 and 27 the Loyalsock International Slalom will be held on the Loyalsock. Last year this was the biggest whitewater event in the United States in terms of the number of entrants so if you’re looking for “what’s happening” that weekend this may be it!

LINESVILLE OPEN HOUSE

Want to find out where all those warmwater species come from? Then plan to visit the annual Linesville Open House, this year scheduled for Easter Sunday, April 6. Starting at 1:00 P.M. there’ll be tours of the grounds as well as demonstrations of methods used to hatch and rear these big fish. You’ll see muskellunge, northern pike, walleye, and lots of others!

BOATING PLEASURE

If you’re beginning to feel the urge to launch that new power boat—or the old one—you might first want to attend one of the many “Boating Pleasure” courses that will be offered by the Pennsylvania Fish Commission this year. They’ll be held in three sessions—two hours at a time—and you may be surprised to discover some of the things you didn’t know! Watch your local newspapers for announcements or contact your district waterways patrolman.

BIG FISH

And beginning with the next issue of the Angler you’ll be seeing a list of all those big fish registered for Pennsylvania Angler Fishing Citations during 1968. Discover where and how these big ones were caught—watch for the tabulations!
APRIL, 1969

APRIL IN PENNSYLVANIA IS SYNONYMOUS with one thing—trout fishing! This year's season will open Saturday, April 12th at 8:00 A.M. instead of the usual 5:00 A.M. Anglers as well as generous landowners who permit fishing on their properties will get a few extra hours of sleep.

From A to Z—Ackley Run in Warren County to Zebe Township Rod and Gun Club Pond in Northumberland County—trout fishermen can expect to find conditions which are normal for this time of year. Streams will be running swift and cold from the spring run off and will be discolored. Lake and pond water temperatures are just getting into the forties.

Snatches of conversation from gathering groups along the waters reveal streams familiar not only to native fishermen but streams famous over the entire country. Names like Yellow Breeches, Pine Creek, Broadheads Creek, Letort, Lackawaxen, Bald Eagle, Brokenstraw, Fishing Creek and Loyalsock. Unfamiliar names like Complanter Run, Mix Run, Twolick Creek, Snitz Creek, White Deer Hole Creek, Goose Pond Run, Nine Partners Run and Aunt Olas Fork keep cropping and make you wonder about their fishing potential also.

Early in the season probably the first choice of bait over the entire state is garden worms. Fishing these in high streams can present some problems. Use enough weight to keep the bait down where the fish are feeding but not so much that you are continuously hung up on the bottom. These and other popular early season baits, cheese balls, salmon eggs or night crawlers cast upstream and allowed to drift down through the feeding lanes in a natural manner have always taken early season trout.

Minnow fishing in lakes or ponds can be quite productive early in the year. Hook the minnow through the lips or through the back and cast out with a small bobber to signal a strike. When fishing a stream with minnows I've always found it better to string minnows using one small treble hook at the rear. Retriving causes a spinning effect and when a hit is felt, strike immediately. Fished slightly upstream and across this method can be deadly.

Fishing spinners and spoons in this manner, it is also necessary to keep the lure down and moving fast enough to bring out the action. Lures such as the Devon spinner, Mepps and C. P. Swing in both silver and gold finishes will be much in evidence no matter where you fish.

Early season fly hatches, although not prolific, are common throughout most of our waters. These usually occur during the warmest part of the day. Fishing the riffles in the afternoon when fishing pressure has slackened usually produces well. Patterns such as the Quill Cordon, Blue Quill, Red Quill and the Blue Dun are favored. Attractor flies such as the Fin Fly or the Royal Coachman used in the early season are spotty in their effectiveness. Sometimes they are killers taking many trout while other times they don't even get a bump.

Fishing the streamer can serve a double purpose. Besides catching fish, the tell tale flash of the trout that chases but doesn't take your streamer locates his feeding zone. This makes him an easy target for a worm, salmon egg or wet fly drifted. An attractor type streamer such as the Mickey Finn does better, I believe, for rainbows and brookies early in the year. The exact imitation type streamers of dace and shiners meanwhile will entice even the warriest browns from his hiding place on certain occasions.

A common and unfounded belief that anyone or anything can catch early season trout leads many people to use equipment and methods not appropriate in any fishing. Hooks, lures, baits and leaders too big for the job are unfortunately too widely used. Samuel Johnson said "Nature never gives up everything at once." All of our waters contain lunker trout which have grown to that size because they were aware of leaders and lures. Lunker trout can be classed as such in relation to the waters they inhabit. A sixteen inch brown taken from the Lackawaxen would be a fair fish but catch one this size from a tributary stream no more than six feet across and you'll have yourself a lunker. On opening day as well as all season you'll get better re-
suits with leaders and lures more suitable to the size of the fish you are after.

Speaking of tributary streams, just about every county has waters where because of their size or location are not stocked with adult trout. Many of these streams hold native brook trout, browns from prior fingerling stockings or rainbows that have moved in from larger waters. The fact that these streams are not stocked leaves them practically deserted early in the fishing year.

I was introduced to trout fishing on such a stream. A walk of three miles brought us to a stream locally called the Third Hollow. There with hooks purchased at a grocery store, two for a penny, and black casting line tied to a stick cut from the woods, worms laboriously dug in the garden produced a bit practically every time but you had to catch about ten of those little brookies before you had one that made the six inch mark. Also called Indian trout, mountain trout or natives these fish were a delicacy when pan-fried to a golden brown.

Equipment then was more or less makeshift. We used home made rods, sticks from the woods, or if we were lucky, a telescope rod of steel that weighed about a pound. Hooks were bought separately and leaders were unheard of. Worms were the one and only bait and flies were unknown. If someone had asked me what a Royal Coachman was, I would have probably said “the guy that steers the king’s horses.”

It would be extremely difficult to select Pennsylvania’s best trout stream. Both limestone and freestone streams occur over much of the state. It is generally conceded our prime trout region lies across the Northern tier and down through the central counties of the state. Each of us has favorite waters and one man’s favorite isn’t always the other fellow’s choice. We are fortunate in Pennsylvania to have trout waters in each of the 67 counties.

The following recommendations of district waterways patrolmen of their respective district are based on three factors: 1. Size—ability to withstand heavy pressure. 2. Accessibility, and 3. Available trout populations. Keep these things in mind when choosing your site for opening day. Check the following for streams in the area you will fish.

Adams County has the Conewago and Middle Creek. Allegheny County offers 74 acre North Park Lake and newly opened Deer Creek.

In Armstrong County Pine Creek and its branches and Buffalo Creek will attract the bulk of fishermen.

In Beaver County, try Racoon Creek Lake and the North Fork of the Little Beaver River. Bedford County has much to offer with Bobs Creek, Cove Creek, and Koon Lake standing out. Berks County has the Manatawney and the Tulpehocken. Blair County’s Clover Creek has good native trout populations. Bradford County has Schrader Creek and Bucks County has Cooks Creek and Levittown Lake which get the bulk of the fishermen.

In Butler County Buffalo Creek and Thorn Creek look like the best bets while Cambria County fishermen go for Chest Creek.

Cameron County has many good streams and outstanding here are the Driftwood and First Fork branches of the Sinnemahoning and the Stephanson Dam. In Carbon County there are many fine small streams and the Aquaslicola and Poohopoco Creek stand out among the larger streams. Centre County has plenty of fine water and Penns Creek is the choice of most. French Creek in Chester County is a local favorite while Clarion County’s top choices are Beaver Creek and Cathers Run. Clearfield County is blessed with plenty of trout waters and Mosquito Creek gets a good plug. In Clinton County two fine streams are Big Fishing Creek and Kettle Creek while Fishing Creek is also outstanding in Columbia County. Crawford County’s Oil Creek and its branches head the top waters in this area. Another prime water of the state is Yellow Breeches Creek in Cumberland County.

In Dauphin County try Clarks Creek while in Delaware County Ridley Creek gets the big push.

Elk County has plenty of good trout fishing and the West Branch of the Clarion River has the top nod there. In Erie County try Elk Creek.

Fayette County has Dunbar Creek and the tail race of the Yonghiogheny River. Forest County’s choice is Tionesta Creek while in Franklin County the Falling Springs Branch and Letterkenny Reservoir each year produce near record trout. Fulton County’s Cove Creek is another good bet.

In Greene County Ryerson Station State Park Lake is popular. Huntingdon County has over 27 miles of Standing Stone Creek and Indiana County has Little Mahoning Creek.

Jefferson County has the North Fork of Red Bank Creek and Juniata County has Lost Creek and Licking Creek. Lackawanna County’s Chapman Lake and the Lehigh River continued on page 47
A RAY OF HOPE MAY BE SHINING FOR SOME OF THOSE USELESS WATERWAYS IN THE KEYSTONE STATE THAT DIED LONG AGO WHEN ACID MINE DRAINAGE FIRST POLLUTED THEM. DR. H. B. CHARMBURY, SECRETARY OF MINES AND MINERAL INDUSTRIES, AND HIS STAFF HAVE COME UP WITH A TWO STAGE ANSWER TO THE PROBLEM. IT MAY PROVIDE . . .

NEW LIFE/For Sick Streams

MOMENTUM IS PICKING UP on the Pennsylvania Department of Mines and Mineral Industries' comprehensive water reclamation program to the point where some mine acid drainage-ridden streams in the Commonwealth are now, once again, producing aquatic life.

Such a stream is Little Scrubgrass on the border between Venango and Butler Counties, the first recipient of the Department's massive research program into the matter of finding solutions to the State's abandoned mine drainage problem.

Today, as a result of this research, a semi-permanent lime neutralization plant, the first of its kind in this country, was installed on Little Scrubgrass and on the Rankin Property, Venango Township, in December, 1966. This property was selected for the installation because of its proximity to the nearby abandoned strip mine which was the major source of pollution to Little Scrubgrass, which flows into the Allegheny several miles downstream.

Since this fully automatic plant went into operation—fish life—in the form of bluegills, chubs and brook trout—

This IS AN ARTIST'S sketch of the proposed new lime neutralization plant that is being constructed on the North Branch of Slippery Rock Creek in Butler County. Big Brother to the Little Scrubgrass plant—the first of its kind—and the more complex Slippery Rock plant, below, will neutralize some 2 million gallons a day of acid mine drainage. Cost of this plant, designed by Chester Engineers in Philadelphia, will be around $102,000. It should be in operation within six months.
have been observed flourishing several miles downstream from the plant itself.

But "treatment is not the answer to the problem," according to Dr. H. B. Charmbury, Secretary of Mines and Mineral Industries.

"Scrubgrass was our first venture—and it is successful—in what I call our one-two punch on this problem," Dr. Charmbury says. "Permanent remedial action to eliminate the sources of pollution has to be the ultimate objective, but semi-permanent treatment plants enable us to reclaim or protect the streams from mine drainage until we can get to the sources, backfill and/or otherwise eliminate them."

"At sometime in the near future," Dr. Charmbury says, "we will strike or disassemble the Little Scrubgrass plant and move on to another location in the State and start the cycle of reclamation all over again. But we won't move the plant until we're sure that our restoration work has eliminated the source of pollution."

Late in the fall of 1968, the Department of Mines and Mineral Industries, using its own equipment and personnel, completed restoration of the 27-acre abandoned strip mined lands and pit on the Rankin property.

But before the Department could begin work at all, the property had to be purchased from Rankin and turned over to the Commonwealth as public land. To enable the Department to purchase such lands for restoration, the Legislature passed what is known as the "Coal Lands Improvement Act" in 1965, and appropriated $1 million to the Department of Mines for just such purposes. The Rankin property was the first purchase under this Act.

Under provisions of the Act, the Secretary of Mines and Mineral Industries is authorized to acquire, either amicably or by condemnation, land which has been affected by open pit or strip mining and which, in its present state, is hazardous or otherwise detrimental to the health and safety of the citizens of the Commonwealth, for which Federal and/or State funds are available.

The Secretary is authorized to backfill, plant and perform other acts of restoration on the land. After restoration, the Secretary may transfer jurisdiction of the land or any portion thereof to any other state department or state agency as can best utilize it for public purposes.

If such retention is deemed impractical, the Secretary may sell such land to counties or municipalities at the cost of acquisition and restoration or at public sale to the highest bidder, but this is considered a "last resort" in disposal. A condition of the sale is that no open pit or strip mining shall be allowed on the property thereafter.

Land for which a bond conditioned upon restoration thereof is in effect shall not be acquired under the Act. Also, the Act can not be construed to relieve any person from an obligation to backfill, plant or perform other restoration required by law.

"We'd prefer, however, that local communities or governmental units purchase such lands for reclamation," Dr. Charmbury said, "because it saves time and effort. Even though we have competent people assigned to handle provisions of this Act, their individual efforts are taxed

continued on next page
NEW LIFE—

LITTLE SCRUBGRASS CREEK lime neutralization plant, upper Butler County that was the first of its kind in the country when it went into operation in December of 1966. The Department of Mines and Mineral Industries reports that this plant—installed for less than $40,000—has restored this tributary of the Allegheny to the point where it once again is supporting aquatic life.

considerably by mounting requests from local government entities.

"If a county, or municipality can acquire the land, it can speed up the total reclamation effort by sometimes as much as a year or more. It takes a great deal of time on title research and correspondence with the individuals who own these tracts before papers can actually be signed. This is a major headache to us, operating out of Harrisburg with so many different requests. It amounts to tremendous time saved when local government can accomplish purchase of such lands, and then allow us to do the necessary reclamation work.

"If a local government entity owns it beforehand, then it eliminates the need for the research and ultimate disposal of the land once it is restored," the Secretary said, "and this, too, can be a problem."

In addition to Little Scrubgrass, the Mines Department has since received bids on two more "Scrubgrass" type plants, one to be built at Sandy Run in Luzerne County and the other at Buck Mountain in Carbon County.

When these two new plants are operational late this summer they will—combined—clean up nearly 12 miles of abandoned mine water pollution affecting the Lehigh River.

Other acid ridden streams of the Commonwealth are beginning to receive direct benefits from the Department's comprehensive reclamation efforts.

Now under construction at Burgettstown in Washington County, is the nation's first ion-exchange type mine water treatment plant. When finished sometime this year, this plant will provide that community with an additional 500,000 gallons of nearly pure water for its existing Dimmore water supply reservoir. In nearby Butler County— a huge, more refined neutralization treatment plant is also being constructed to protect Slippery Rock Creek from periodic "acid" slugging. This plant will also be operational later this year and clean up nearly a million gallons of mine drainage a day.

Under terms of the recently enacted conservation bond issue, the Department plans to utilize some $150 million of its $200 million allocation from this source, to further implement work and programs designed to clean up additional abandoned mine water pollution sources.

Governor Shafer authorized the Department early last year to initiate basinwide surveys on seven major Pennsylvania watersheds to determine both the sources and steps necessary to erase mine drainage pollution. These include the Youghiogheny in Fayette and Somerset Counties; the Chartiers Creek in Allegheny and Washington Counties; the East Branch of the Clarion River in Elk County; Slippery Rock Creek in Butler County; Beech Creek in Centre County; Two Lick Creek in Indiana County; and the Mahantango River in Schuylkill County.

All of the surveys are underway, Dr. Charmbury said, and one of them—the Youghiogheny—is nearly completed. "From the Youghiogheny survey," he said, "we already know that there are over 500 different sources of mine drainage pollution alone affecting this watershed.

"What we're determining now are the quick-start projects that can be undertaken on the Youghiogheny to eliminate as many sources as possible and as soon as possible with bond issue financing."

Aiding the Department's temporary efforts at stream recovery are four portable lime neutralization type plants that Dr. Charmbury calls his "fire engines." "These portable plants can be dispatched to given points in order to protect a stream from a wholesale acid slug or they can be employed to temporarily relieve mine drainage conditions until more permanent facilities are erected on-stream. (See photo.)

Realizing that treatment to neutralize abandoned mine drainage can be costly if done over a long or extended period, Dr. Charmbury defends this procedure with rather sound logic. "Until we know where the sources are, and what to do to eliminate them, the Department feels that treatment of abandoned mine drainage can offer temporary—but at least immediate—relief.

"Since there are approximately 3,000 miles of Pennsylvania streams and rivers polluted by abandoned mine drainage and extending back to the very dawn of coal

continued on page 46
Those among the "in" crowd in boating are hep with its jargon. In casual conversation, chock, cleat and chine are terms that won't stump the knowledgeable recreational boater.

From personal observation of novice and veteran boatmen alike, all too many aren't as proficient with the jargon as they are at the helm.

Eavesdropping on a chat between a boater and a marine dealer one muggy summer day, certain colloquialisms mentioned by the latter left a wide gap on the visitor's face. At the same time it exploited a general deficiency: most boatmen aren't the skilled boating connoisseurs they think they are.

The visitor—a dignified man who spoke with a fluency that it was hard imagining him being anything but a successful professional in the business world—declared an interest to "trade up" to a larger outfit.

"I have a 15-footer," he told the dealer. "It has a 45. I'd like to get an 18-footer with an 80." At this point you'd vow he was an "in" boater.

The dealer pointed out a reconditioned 18-footer resting on a tilt trailer outside his showroom. "Gunwale length is 18 feet. Is this alright?" Strange wrinkles crossed his face. The visitor's status as a disciple of the "in" crowd already was in jeopardy.

"But he replied gamely. "You mean straight from the bow to the stern," he remarked. This clinched his status; the pot-shot wasn't "in" talk.

"No, around the upper hull safety strip," explained the dealer, sweeping his arm alongside the craft. Now the explanations seemed to bewilder the man all the more.

"Any other questions?" inquired the dealer.

"Not particularly," answered the man. "Hull and deck look okay. But there's a slight crack in the starboard reflector."

With this his confidence rose. So did the dealer's.

"What about the motor?" asked the man.

"It's not the best," retorted the dealer. "With the loads you'll be carrying, you'd be better off getting a new one. But I don't have any that'll fit."

"There's an 80 in the showroom," countered the man. "It's not sold, is it?"

"Nope, but it's a short shaft."

"Then order me a long shaft," the man shot back.

Both men smiled. Both men were obviously at ease. It's a comfort engaging in conversation when you know the jargon.

And with some study of the picture (top of page) you too can learn what those different terms mean!
CAN YOU IMAGINE how happy the owner of this piece of property was when he found several boxes of garbage which had been deliberately tossed out. But whether that "left behind" rubbish is intentionally discarded or not, the effect on the property owner who has to pick it up is the same—close the ground to public use.

WHILE GENERALLY RECOGNIZED as definitely disgraceful, and just one more of those things that "something should be done about," I wonder how much recognition is given to poor streamside manners and the littering associated therewith as a major threat to further diminishing the amount of water open to public fishing—a threat which may very well be second only to pollution.

The magnitude of the litter problem elsewhere is graphically illustrated by readily available statistics from a number of agencies intimately concerned with its prevention. Our Pennsylvania Department of Highways estimates an annual expenditure of $1,000,000.00 for litter removal along our Commonwealth highways alone. Keep America Beautiful, Inc., the national litter-prevention organization has rather colorful statistics to match any given occasion. For example, on a Memorial Day spree, this affluent society of ours will carelessly lay an ugly "wreath" of litter (as their memorial to the Nation's beauty) equivalent to a
3,800 mile band, two feet wide and four inches high, circling through Minnesota, Ohio, Texas, and Wyoming! The Fourth of July will leave behind enough litter to pack a firecracker taller than the Empire State Building while the long Labor Day weekend will require approximately 4,000-6,000 man-hours of labor in refuse removal!

Closer to home, the Pennsylvania Fish Commission's Enforcement Division reports a 100% increase in arrests for littering offenses (1968 over 1967) as compared to an increase of 20% in arrests made for fishing without a current fishing license—the most frequently violated provision of the Fish Laws. It would appear that things will get worse before they get better.

Any landowner who has found not only the stream banks, but his lawn and farmland as well, littered with everything from SOUP cans to NUT bags (bottles are in there—although not alphabetically) will attest to the alarming fact that the situation is getting downright intolerable. Each year these patient hosts entertain countless thousands of sportsmen, expecting (and getting) nothing in return for their hospitality. It would seem that at least the common courtesies extended a host elsewhere would prevail here. But instead of “thank you,” he gets cans, bottles, ruts in a cultivated field, a burned tire here and there. He loses a goodly number of Christmas trees each year, not to mention the lower-most branches of his most colorful red maple—which didn't burn anyway, judging from the ashes of the fisherman's campfire!

This thoughtless behavior runs the scale from the innocent tossing of an empty cigarette pack; ridding one's self of a monofilament birdsnest, through rubbish, campfires left burning on up to outright vandalism! One irate Potter County landowner, contemplating building a camp, began hauling in materials. Among them was a heatilator, the nucleus of his dreamed-of fireplace. It didn't take an Indian guide to read the sign—a pickup was backed up, the unit loaded and hauled away. Beer cans and empty carton packages were left in its place. His first thought was to lash out at sportsmen in general and close the land. Fortunately, such action (although justified) would have been against his principles.

A very good friend of mine owned a section of land bordering prime trout water in Luzerne County and for years smiled as he hauled away one wheelbarrow after another of litter after trout season's first month had passed. He tells of observing a young woman eating her lunch. When she had finished, her pop bottle was tossed out the window right on his lawn. Always the gracious host, he walked over and asked her if she would be kind enough to pick it up and put it elsewhere. Very obligingly she retrieved it, walked over to one of his flowering shrubs and neatly secreted it at its base! One of the most patient men I've known— even he had a limit. While this incident was halted in the act of chopping down a tree his dad had told him to take along—in case it got cold and he wanted to build a fire! Trees had been chopped down, others just hacked with permanent scars and left standing. Litter of an inglorious variety was everywhere; bottles, cans, papers, trash of every description was strewn in all directions. A day or so later Boy Scouts succeeded in filling two pickup trucks with refuse left from opening day. (This is reminiscent of a day on Harveys Lake when volunteers from their Rod & Gun Club and PFC personnel likewise removed two pickup truckloads of litter from one section of the lake alone—all left behind by thoughtless ice-fishermen!) The Cooks Creek incident is probably singularly responsible for the establishment of the new opening hour for trout season this year—8:00 A.M. Perhaps this will entice more of these folks into remaining at home in the comfort of a warm bed rather than spend all night harassing their neighbors.

There are many things in this life I've never been able to comprehend—but I've accepted them. The splitting of the atom is just not too clear to me at even this late date; moon shots and the like are just not my bag, but when it comes to keeping warm by the fireside, I feel I can speak with reasonable authority. Here and now I would like to take exception to those birds who insist on burning rubber tires to keep warm while fishing! Great Balls of Fire it escapes me how these folks figure the heat is worth the billowing putrid black clouds of smoke! One of the rewards of a day in the great outdoors is the fresh air...
POOR STREAMSIDE MANNERS

—it can make up, in some measure, for getting "skunked." Personally, I'd rather freeze than breathe stinking fumes from a burning tire. More disgusting (and lasting) than the smoke is the coiled wire carcass left behind when the rubber has burned away. Eventually, this too finds itself in the stream bed to later foul hooks and trip wading anglers!

Thus far, we've not broken down our amicable hosts into categories more specific than "landowners." Let's consider, specifically, the plight of the farmer. A very good little trout stream in Northeastern Pennsylvania, one which would meet Commission standards for stocking (and if stocked—would provide trout fishing in an area where such is not otherwise available) has been closed for years because of the stand taken by one farmer situated just about in the middle of its length. I had a good long chat with him and left fully sympathetic with his problem. "I have never chased a fisherman out of that stream, and I don't intend to. It's the fellow who walks the banks—well, not the banks but my wheat field—looking for a 'good' spot to fish that provokes me! Year after year I lose a swath of grain, six to eight feet wide from the hordes of fishermen who walk the fields in full fishing attire, hip boots or waders, and carry all manner of gear—and fella', those trout just aren't in the field!" It is doubtful this stream will ever be open to public fishing throughout its entire length because of the continuing abuse in this one section. A similar situation exists in another location where the farmer/owner has the misfortune of having the watercourse flowing in a gentle arc around his corn field. He loses a few bushels of corn every year to those who will not stay with the stream.

Broken bottles probably cause the streamside farmer more anguish than any other single item. Pit the farmer located not only along a stream, but a public highway as well! We must admit that the blame for an awful lot of garbage thrown from passing vehicles is laid to the fisherman—nevertheless, the damage is done. One of the most productive sections of Fishing Creek in Columbia County was lost to public fishing for a number of years because of a broken bottle. While spreading manure near the highway adjacent to the creek, where fishermen park, he ran over a broken bottle, cutting and ruining a tire. He wasn't too shaken by the incident until he found it would take a number of weeks to replace this particular size tire for his spreader—it had to be ordered from out of state! The manure pile and his wrath mounted proportionately day by day. Harvesting machines have been known to pack broken glass into bales of hay and straw and when not detected by the dairyman before feeding—he's got a problem on his hands, and he may still not have recovered from the broken fence he noticed the day after the season opened!

The anti-litter writer has at his disposal a great abundance of material, but what an empty feeling it leaves. Staggering statistics are available, as aforementioned, to fill an entire page. Littering has no doubt engendered more slogans than Prohibition and the great wars—but the problem remains. Where does it all start? That's the easiest part of the whole matter—with you and me! A gum wrapper, cigarette package, a single can or bottle—think of it, A HUNDRED MILLION OF ANYTHING MAKES QUITE A PILE!

But stopping it—that's another matter. Why doesn't it just stop? Quoting KAB again, "—people are thoughtless. They don't realize the staggering amount of litter that accumulates or the cost and effort of removing it. They don't feel responsible for the appearance of public property. There are other reasons, too. Increased travel, expanded facilities for recreation, a shorter work-week with more time to enjoy America's great outdoors—all combine to provide more opportunities for litterbugs and add up to a tremendous national problem!"

It's going to take immediate personal and organized action on the part of outdoorsman to get the litterball rolling in the opposite direction—we've talked about it long enough! Just how to go about it in an organized fashion is not as difficult as it may seem. KEEP AMERICA BEAUTIFUL, INC., has a wealth of manuals, guides, and leaflets, available. For a complete listing—and some good ideas—write them at 99 Park Avenue, New York, N.Y., 10016.

Some years ago a writer called us, "—a nation standing knee-deep in sewage, gazing skyward at rockets bound for the moon." While the litter is still but ankle deep along the shoreline—let's "move it out."
TWENTY-FIVE YEARS OF ANGLING EXPERIENCE has caused my path to cross with many fishermen. I've enjoyed them all—in fact it seems as if the fishermen are becoming more interesting than the trout at times. It's really too bad that more psychoanalysts are not trout fishermen. They could have a ball fitting the various angling types into the many mentally disturbed categories.

In a small way this is exactly what I have done. After much deep thought (and many ill-spent hours on the stream) I have managed to type the normal, abnormal and subnormal species of trout fishermen. To my knowledge, nothing this scientific has ever been attempted before where trout anglers are concerned. ANGLING widows

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The Family Sport

by

SAM HOSSLER

AUTHOR SAM HOSSLER gives son Scott a lesson in handling new spin/cast gear. Balanced and good quality equipment is important for those members of the family just getting started. Poor or improper gear can cause lots of needless frustration and grief and ruin an otherwise pleasant trip.
THE ONE OUTDOOR ACTIVITY in which the whole family can participate is fishing. Grandparents or toddler—each may enjoy this healthy, relaxing form of recreation. Every year many families are discovering the joy of sharing a day on the water together. Whether it is sitting on the bank of a river, boating on a placid lake or wading a secluded mountain stream in search of the wily trout, family fishing will double the pleasure derived from this wonderful sport. Many men for some reason assume their wives and daughters are not interested in dunking worms from a stream bank. The truth of the matter may be they have never been invited to try. I have never found many females, young or old, who enjoy impaling a worm on a hook but this is a small price for the man of the house to pay for the excitement and delight seen on their faces when that first strike puts a bend in the rod and the fish is hooked and landed. Girls, boys, wife or sweetheart all will enjoy learning the art of angling.

When taking the little ones—or for that matter anyone new to fishing—out for the first time try to pick a spot where they will catch fish, any size fish. The first bluegill, crappie or perch is a memory they will keep with them forever. If they can catch a few the first hour out they'll be a fisherman for life. The thrill they receive will be transmitted to you through their shrills and laughter as they battle their prize.

A picnic fishing trip is always a big event at our house. With the many state and county parks scattered throughout Pennsylvania we have our choice of any type of fishing within easy driving distance. Many of the larger lakes have boat livery's and all on which public boating is permitted have access ramps. Picnicking may be enjoyed at all parks and the scenery and fresh air will soon melt your troubles away.

Another fact in favor of fishing is its cost. The least expensive of any of the sports, it offers much more in return. Excellent balanced beginner fishing sets are marketed by many leading manufacturers with a price range of $4.50 to $12.00 at most sporting goods stores. These include rod, reel and line. A package of hooks, some sinkers, and a bobber or two will complete the outfit and the price will still be less than a dozen good golf balls. A well balanced outfit will be easier to learn to use and will give many years of carefree fishing, while the toys are just that and should be avoided. My only advice would be to stay with the spin or spin cast types. The less expensive bait casting reel will create more frustration than pleasure and could cause even a veteran fishermen to give up the sport.

Fly fishing is a great challenge and as your pupil becomes more proficient he will want to try this I am sure. Many old time fly fishermen would have you believe it is only after many years of practice are you able to present a fly that will fool a trout. However, bluegills and crappies aren't so fussy about the presentation and many happy hours can be spent learning to cast and at the same time catching fish also. On a light fly rod a crappie will give the novice angler as much action as he can handle. Ounce for ounce they will give you as scrappy a fight as any fish that swims.

The many fringe benefits that go with fishing can not be overlooked either. All the wonders of nature unfold along a stream or on a lake and may be enjoyed by everyone. Ducks flying overhead or the glimpse of a great heron as he effortlessly flaps away are thrills not only to the youngster but adults as well. There are many animals to be seen also. Deer, raccoons, muskrats and even the frogs and turtles are a source of excitement and interest to children. In the spring grouse may be heard drumming or the whistling of a woodcock at twilight as he does his courtship flight. These are the things to be shared together, they are what make the "unforgettable trip."

More and more people are learning to enjoy nature by simply observing it, which is something the whole family can do while fishing. Try it, you may find new fishing pals you didn't know you had!
MUCH CAN BE LEARNED about a trout stream by examining the extent of aquatic life on the stream bottom. Overturning a submerged rock or two—or scooping up a handful of gravel—will often indicate a stream’s fertility by the quantity of nymphs found. On the other hand, the absence of nymphs means that the stream is probably infertile or perhaps polluted to a degree sufficient to eliminate the more delicate forms of aquatic fauna. A knowing fisherman will look for nymphs with obviously darkened wing cases, for these are the nymphs he can expect will soon be active and possibly emerge later in the day. Armed with this knowledge he can often predict the “hatch of the day” and make his choice of fly accordingly.

Among the more common mayfly nymphs inhabiting the riffly waters of Pennsylvania’s trout streams are those of the genus Stenonema, which includes the familiar March Brown, Cahill and Gray Fox or Ginger Quill. Stenonema nymphs are relatively broad and flat, designed by nature to be able to cling to the underside of rocks in medium to fast current. These nymphs have characteristically broad heads, with eyes positioned on top, and rather large, mottled legs.

The March Brown nymph pattern shown in the photographic sequence is the result of a long evolution of subtle changes from the original condor quill pattern which we first described in the May, 1953 issue of the ANGLER. Some of the changes were made to improve durability, others to enhance the likeness of the artificial to the natural. The pattern begins with a basic underbody, made by cementing a strip of heavy nylon monofilament on either side of the hook shank and tapering each toward the rear with a razor blade. This provides the required shape and flatness so characteristic of the natural and may be used as the basis for making any flat-bodied nymph. The nymph may be self-weighted by substituting strips of lead wire for the monofilament.

A single fibre from a dark condor quill is an ideal material for the nymph’s abdomen for it is tough, self-segmenting and the wispy flue on the edge of the fibre imitates the gill filaments of the natural nymph.

The big head, so prominent on the living nymph, is achieved by folding the quill extension of the wing case up and back, over a piece of chenille to give it depth.

Stripped hackle ribs are used for tails because of their extreme durability and because their natural curvature permits easy positioning on the hook. Care should be taken to avoid the use of ribs from large hackles for these are generally too clubby and stiff to be practical. Ribs from the smaller spade hackles are finely tapered and when soaked, in use, become soft and flexible.

Because of the general similarity of the March Brown nymph to smaller relatives of the Stenonema clan, the pattern in size #14 is also effective when Cahills and Ginger Quills are prevalent. Like any imitative nymph, it works best during the emergence period of the naturals and in Pennsylvania this generally falls between mid-May and early July, depending upon geographical location.
TO TIE A MARCH BROWN NYMPH:

**STEP ONE**—Prepare a flat underbody by cementing a strip of heavy monofilament on each side of the shank of a size #12 hook. With a razor blade slice the nylon to a taper toward hook bend. Tie in brown nymph thread behind eye and spiral closely to rear of underbody. Half-hitch.

**STEP TWO**—For tails strip the fibres from three small brown spade hackles. (These are located along the sides of the neck.) Tie in stripped hackle ribs at rear of underbody and spiral thread forward to midway point along hook. Trim off excess hackle ribs as shown.

**STEP THREE**—Select a single dark condor quill fibre and bind tip end on hook with butt end extending over tails. Spiral thread over quill fibre back to base of tails and forward again to mid-hook. Saturate all thread on underbody with thin outdoor lacquer.

**STEP FOUR**—Attach hackle pliers to butt of condor quill and wind forward, being careful to avoid overlapping turns. Tie off butt of quill with two turns and half-hitch.

**STEP FIVE**—For wing case cut a section of dark gray goose quill slightly wider than body of nymph. Lay quill flat over body with shiny side down and tie in tip end over condor quill tie-off. With bodkin point spread a thin coat of vinyl cement on both sides of goose quill and trim away excess tip.

**STEP SIX**—Invert hook in vise. For legs cut six fibres from a large, brownish wood duck flank feather. Tie a knot in each, near the middle of the fibre, forming a right angle as the knot is pulled tight. Bind legs in pairs to underside of body, as shown, and spiral thread back to edge of condor quill. Apply a small drop of lacquer to each leg knot.

**STEP SEVEN**—Trim legs to proportions shown in Fig. 6b. Apply a medium-heavy dubbing of tannish gray Cross Fox fur to about 2" of the tying thread and wind dubbing forward, taking care to avoid altering the position of the legs. Half-hitch thread behind eye.

**STEP EIGHT**—Turn the nymph right-side up in the vise. Pull wing case over the back of the dubbed thorax and bind to hook with two turns behind eye.

**STEP NINE**—Cut a 2" length of medium-diameter dark brown chenille and lay chenille over goose quill where quill was bound to face end of hook. Hold chenille in position and bend goose quill up, back and over chenille. Bind down quill just behind chenille with two turns and half-hitch. Trim away excess quill close to windings. Cut off ends of chenille snug against each side of head and apply a drop of vinyl cement to ends of trimmed chenille to prevent unraveling. Move thread forward to eye of hook, whip finish and saturate finish windings with lacquer.

**STEP TEN**—Completed March Brown nymph.
THESE FIVE HAPPY FISHERMEN could all be dead in darned short order if that rowboat they've overloaded upset!

While early spring is a great time to get outdoors, anglers—and other boaters—should remember that the water in Pennsylvania's streams and lakes can be very cold—and hazardous.

IF YOU'RE ONE OF THOSE BRAVE FOLKS WHO DON'T MIND PUSHING OFF WHEN THE WATER TEMPERATURE OF YOUR FAVORITE RIVER OR LAKE IS ON THE LOW SIDE, THEN PERHAPS THIS STORY WILL GIVE YOU SOMETHING TO THINK ABOUT. AN UPSET INTO THE COLD SPRING WATER COULD BE FATAL—AND ONCE YOU'RE OVERBOARD YOU DON'T HAVE MUCH TIME TO DO ANYTHING ABOUT IT!

by C. JAMES HARPER JR.

COLD WATER—
THE QUICK KILLER

ON THE SECOND SATURDAY IN APRIL, trout fishing season starts in Pennsylvania. The average water temperature across this state will be 40° Fahrenheit. How long can you live in 40° F water? How long can you swim in water that temperature? What are your chances of survival if you fall overboard?

Most people are aware that cold water kills a person faster than cold air. But very few people know just how fast cold water kills. I was only seventeen and aboard ship in the Bering Sea when I learned what cold water could do. The ship's Captain announced that the ship wouldn't be turned around to pick up anyone washed overboard. The Captain explained that a person couldn't live long enough

AN UPSET in the summertime when water is warm is far less dangerous than spills in cold water. However boaters should be prepared for upsets all the time. Life saving devices should be available for all on board although they are not legally required in non-powered craft.

PENNSYLVANIA ANGLER
in that water for a ship to turn around and race to their rescue.

In Pennsylvania, duck hunters and fishermen push off from shore in overloaded car-top boats in water just as cold as the Bering Sea. The only difference between fresh water and salt water is that fresh water freezes at 32° F and salt water about 4° less, approximately 28° F. Men who wouldn't dream of venturing on deck of a large ship in the Bering Sea, push off from shore in the lakes and rivers of Pennsylvania with complete abandon, unaware of the possible danger they may encounter, and in small craft which can be easily upset.

Of the several hundred reports on shipwreck survivors in the files of the Bureau of Medicine and Surgery, U.S. Navy, Washington, D.C., very few show survivors in water temperatures under 40° F. One outstanding case recorded is that of ten men who were cast adrift when their vessel was torpedoed. The water temperature was 29° F. A rescue ship arrived thirty minutes later. Nine of the men were dead. One survived. Most of the men died shortly after being immersed. The one who survived is a record for 29° water.

How do some men manage to stay alive in cold water? Why do most of them die, and what is the cause of death? These questions have puzzled scientists and military doctors for years, and for many years they have been searching for an answer. Let's review the history of this research and determine what man has learned about survival in cold water.

In 1880, a Russian author, Lapitschinski, conducted tests in cold water and was the first to propose the method of rapid re-warming in hot water of an individual who was suffering from cold water immersion.

Professor G. A. Weltz, former Professor of Roentgenology at the University of Munich, was assigned to investigate exposure to cold water immersion in 1940. The German Luftwaffe's interest was aroused during the Battle of Britain, when a good many pilots who "ditched" in the English Channel were lost in the cold water. Dr. Weltz re-discovered Lapitschinski's theory of rapid re-warming. He found that rapid re-warming in hot water of 115° F was lifesaving in guiney pigs and pigs that had been chilled to the threshold of death. Another important result of the experiments in regard to preventive measures against life-threatening chilling in cold water is that it is better to salvage warmth than attempt to produce warmth while immersed. A practical fact told to him by German Navy people is that after immersion in cold water following shipwreck, engine room personnel generally did better than deck personnel, even though they were less well-dressed. He feels that the engine room personnel probably hold their "pre-heated" state for a considerable time in contrast to the deck personnel who had been in the cold air all along. Dr. Weltz's advice to people who find themselves in cold water is to move as little as possible and be dressed warmly, even keeping their gloves on. He advised getting as much of the upper torso out of the water as possible by getting on top of floating debris, a raft or an overturned boat.

Dr. S. Rascher, a member of the medical staff of the German SS, conducted experiments on shock from pro-

WATER SAFETY and the proper use of life saving devices is explained by Chief Marine Services Specialist Dean Klinger.
THE QUICK KILLER

the type of clothing worn. Emaciated people as well as youthful or naked individuals lost their warmth more rapidly than others. He observed that subcutaneous fat on the body delays chilling but also delays re-warming.

When experimental subjects were anesthetized before being placed in the cold water, they groaned and made defensive movements. After five minutes, their movements ceased and increasing muscular rigidity appeared, especially in the muscles of the arms. This rigidity continued until just before death, then the body relaxed. Once the body relaxed, no method of resuscitation was successful. It was observed that when the neck and occiput were submerged in the cold water, the loss of body temperature was greatly accelerated.

Various methods of re-warming the body were tried; drugs, hot fluids and alcohol with varying success but the German SS doctor found that the last re-warming method of putting the men in hot baths was most successful. No harmful effects were noted in any of the experimental subjects. The use of alcohol was discouraged as a re-warming agent because the heart continued to beat irregularly for about two hours after the subject was removed from the water. Alcohol can be used as a re-warming agent if it is administered to people who are immersed for a very short period of time, before heart irregularity develops. In cases of long period immersion, it can be given only after the heartbeat returns to normal. Alcohol was also found to accelerate the loss of body heat if administered before immersion. Rubbing the skin to stimulate circulation was also found to be harmful to frozen tissue.

Daily test records from Dachau were destroyed and only the final report in Himmler’s files were found. This report lacked the precise data that scientists require. The height and weight of only five subjects were listed. Even the total number of subjects tested was omitted.

In 1946, G. W. Molnar, Dept. of Physiology, University of Rochester School of Medicine, examined several hundred shipwreck survivor reports filed during World War II. These reports originated from ship doctors or the pharmacists mates on duty aboard U.S. Navy ships from April, 1942 to April, 1945. These reports included men picked up from the U.S. Coast Guard, U.S. and foreign merchant ships, German and Japanese naval vessels and Army and Navy airplanes which were ditched at sea.

The purpose of this study was to establish more precisely the relationship between duration of immersion and sea water temperature. The only reports that were used were those that showed the exact duration of immersion in which men were continuously covered by water to the neck or shoulders. The sea surface temperatures and type of clothing worn were also noted. This data was then analyzed to estimate maximum survival times in various water temperatures. Survival charts were then drawn up showing the maximum survival time known. In many instances, it represents the sole survivor as in the case of the ten men cast adrift in 29° water, one survived. (See Fig. 1)

Case after case told of unconscious men, gasping for breath, many with irregular heartbeats, being pulled from the water by Navy personnel. Some of the survivors who held onto rope couldn’t let go, and rescuers had to cut frozen rope to release them. When the rescues became conscious, they complained of temporary numbness of the hands and feet. It is worthy of note that after these men were placed under warm showers and put in warm beds, fed hot soup and coffee, they were able to return to duty in forty-eight hours. These men didn’t suffer any subsequent ill effects including respiratory infections.

A vast majority of these shipwreck victims did not live as long as the Dachau prisoners in water temperatures under 50° F. This may be as a result of high seas and the role that shock must play in sudden immersion.

John F. Hall Jr. of the Aero Medical Lab., Wright Air Development Center, tested the cooling rate of the extremities (hands and feet) in 1954. Hall found that a person’s ability to produce heat was based on their metabolism rate. He found that persons who started to shiver as soon as they were put in the water increased their metabolic rate sooner and therefore were better able to withstand the cold water longer.

I talked with Mr. Hall about his experiments and reviewed Dr. Rascher’s tests at Dachau. Hall found that a subject’s metabolic rate changed daily and these subjects were able to stand varying degrees of cold on different days. He cited a case in the Korean war in which a pilot ditched in 40° F water and was picked up by a rescue craft within 20 minutes only to die within moments after being rescued. Mr. Hall mentioned the importance of men keeping their hats on while in the water. “If their cap gets wet, they should wring it out with their hands and put it back on their heads. You would be surprised how much body heat is lost when the head is uncovered.” Needles to say, Mr. Hall’s experiments never reached the critical degree in human endurance that Dr. Rascher’s did.

In Pennsylvania, during 1967, thirty-three people drowned as a result of boating accidents. Falling overboard is considered an accident if it results in death. Thirty of the thirty-three deaths involved canoes, rowboats or open power boats. Only three deaths involved an inboard power boat.

Sixteen deaths occurred before June 1st. Only eight persons lost their lives during the biggest boating months—June, July and August. In Pennsylvania, nine persons lost their lives between September and December as a result of boating accidents.

The statistics almost prove that fatalities do not involve pleasure boaters, but people using boats to accomplish some other purpose such as to fish or hunt.

Throughout the northern half of the United States, bodies are removed from cold lakes and rivers in the fall, winter and spring. The victims are listed as having drowned. Most did drown, but it was as a result of cold water immersion. If these same people had fallen overboard in July or August, many would be alive today.

Trained men in top condition find they can barely swim with clothes on. A heavily clothed hunter doesn’t stand a chance of staying afloat long.

Having a life preserver in the boat isn’t enough in the...
Comprised of nine Commonwealth citizens, the Pennsylvania Fish Commission is responsible for the administration and enforcement of Pennsylvania's fish and motor boat laws. Members of the Commission are appointed for eight year terms by the Governor and are subject to confirmation by two thirds of the members of the state Senate. All serve without compensation.

Eight Commission members represent individual districts, each composed of a block of several counties, while the ninth member serves in an "at large" capacity.

Individual Commission members and the districts they serve are shown on these pages.

AT LARGE—
Commissioner Howard R. Heiny of Williamsport serves "at large" as a member of the Pennsylvania Fish Commission.
Charged with the specific responsibility of representing boating interests on a statewide scale, he was appointed to the post in 1963. He served as vice president during the 1965-1966 fiscal year and became president of the Commission in 1967-1968 for a one year term.

Howard R. Heiny

An active businessman and community leader, Mr. Heiny has served as a director and officer of a variety of organizations. Currently he is a director of the Pennsylvania Boating Association, as well as a member of the Coast Guard Auxiliary, the West Branch Motor Boat Association, and Bald Eagle Power Squadron.
WALLACE C. DEAN

DISTRICT ONE—
Commissioner Wallace C. Dean of Meadville is the longest standing member of the Pennsylvania Fish Commission. Appointed to the post first in 1953, he was reappointed in 1961 for a second eight-year-term.

Representing the Commission's First District, Mr. Dean has been active in community affairs throughout his career. He's past director of the Northwest Division of the Pennsylvania Federation of Sportsmen's Clubs, a past president of the Exchange Club and a former School Board member, having served in each capacity for several years. Presently he's a member of several sportsmen's groups in the state's northwest corner.

Twice during his years with the Commission he has served as its president. In 1960-1961 and again in 1963-1964 he was elected to that office.

R. STANLEY SMITH

DISTRICT TWO—
Commissioner R. Stanley Smith has served on the Pennsylvania Fish Commission since 1955. Representing the Second District, the southwestern part of the state, Mr. Smith lives in Waynesburg.

An attorney, he is currently chairman of the board of County Commissioners of Greene County. Following his original appointment to his post he was reappointed for an eight-year term in 1962. He served as Commission president in 1955-1956 and in 1956-1957.

Mr. Smith has been active in the Izaak Walton League on local, state and national levels and is a charter member of the Greene County Chapter. He is past president of the Fort Jackson Chapter of the Sons of the American Revolution.
DISTRICT THREE—
The Commission's Third District is represented by Commissioner Robert M. Rankin of Galeton.

Appointed to the post in 1963, Mr. Rankin is well known throughout his district, particularly for his efforts on behalf of the Commission's Cooperative Nursery Program.

A charter member and first president of the widely known Potter County Anglers Club, he has been active in sportsmen's circles in the northeasterly part of the state. Currently he's a member of the Marionville Rod and Gun Club, Project Brookville, the Elk County Anglers and the Tiadaghton Chapter of the Audubon Society as well as several others.

He was elected vice president of the Commission in 1964 and then in 1965 became president.

DISTRICT FOUR—
Pennsylvania's Fourth Commission District is represented by Commissioner Clarence E. Dietz of Bedford.

Appointed to the Commission post in 1966, he is currently serving as vice president of the Commission.

A former treasurer of Bedford County, he is a member of several service groups and has taken an active interest in conservation and veterans affairs.

He is past president of the Bedford County Sportsmen's Clubs, a former Commander of District 17 of the Veterans of Foreign Wars, a member of the Rotary, Elks, Moose, the Everett Sportsmen's Association, and numerous others.
Currently serving as president of the Pennsylvania Fish Commission is Douglas E. McWilliams, Jr. from Bear Gap. Commissioner Williams was appointed to the Commission in 1964 and represents the Fifth District.

He served as the Commission's vice president during the 1967-1968 fiscal year, before being elected president at the July meeting last year. Actively participating in local as well as state and national organizations, he belongs to numerous conservation and sportsmen's groups. He's a member of the National Parks Association, the American Museum of Natural History, the American Forestry Association, the American Legion and Optimist Club. 

One of the newest appointees to the Pennsylvania Fish Commission is nationally known conservationist, Frank E. Masland, Jr. of Carlisle who represents the Sixth District. Appointed to the Commission late in 1967, Commissioner Masland has actively served conservation efforts on local, state and national levels. A special consultant to former Secretary of the Interior Stewart Udall, Mr. Masland is a trustee of the National Parks Association, a member of the Board of the Academy of Natural Sciences of Philadelphia, a collaborator with the National Park Service, 1966 Chairman of the Governor's Conference on Natural Beauty, a member of the Commonwealth Priorities Commission, and a member of the Conservation-Outdoor Education Advisory Committee.
Commissioner Gerard J. Adams of Hawley in northeastern Pennsylvania's Wayne County was first appointed to the Commission in 1955. He was reappointed in 1960 and then appointed in 1966 for another eight year term.

Representing the Seventh District, he is well known throughout the area. He's been a delegate to the Pennsylvania Federation of Sportsmen's Clubs state convention and is a past president and officer in several sportsmen's groups.

Community service activities include membership in the Chamber of Commerce, Rotary, and Red Cross.

He has been president of the Commission twice since his appointment.

Newest member of the Pennsylvania Fish Commission is Calvin J. Kern of Whitehall, representing the Eighth District. He was appointed to the Commission in July of 1968.

Mr. Kern served in the past as president of the Lehigh County Federation of Sportsmen's Clubs, the Lehigh County Fish and Game Protective Association and as an alternate delegate to the State Federation of Sportsmen's Clubs.

He is a member of the Allentown Chamber of Commerce Water Resources Committee as well as a member of the Park and Recreation Commission and has been awarded the Victor Steckel Conservation Award for his conservation efforts.
WHILE FLOWER POWER BLOSSOMS THROUGHOUT THE LAND AND HORSEPOWER CONTINUES TO GROW BY LEAPS AND BOUNDS ANOTHER KIND OF POWER SHOULD BE OF INTEREST TO PENNSYLVANIA'S FISHERMEN. IT'S CALLED...

FISH POWER

by Paul Godfrey, biologist
Benner Springs Research Station
I'M SURE WE'VE ALL WONDERED just after that "big one" got away, how a fish swims fast and powerfully? But to understand how, we must first consider a few principles of water and how fish use these principles.

We've all noticed the streamlined shape of fish and probably realized that this enables fish to cut through the water. But wouldn't it be better if the head were the most pointed and tapered region rather than the tail? This would enable it to more easily cut through the water. To answer this paradox, let's consider a series of triangle-shaped blocks in a current of water. The first block has a point facing into the current with a broad base at the tail end as in Figure One. Just as all things, water has inertia—an unwillingness to change direction. When water must change direction rapidly, it cannot do so smoothly and turbulence results—the more rapid the change, the greater the turbulence and the greater the effort required to go through the water. The point on our first triangle causes the water to change direction gradually, but at the back corners of the triangle, it must turn a very sharp corner. It must turn this corner because the triangle moving forward leaves an empty space behind it. This is an area of partial vacuum that draws nearby objects into it to fill the void. It pulls the water around the sharp back corners of the triangle and creates turbulence. The vacuum also pulls back on the triangle itself.

Our second triangle has the point at the tail end and the base forward. This also forces the water to go around corners but notice that most of the area behind the corners and the base is filled by the rest of the triangle. Much less turbulence and drag is created because there is little partial vacuum space to be filled. Figure Two illustrates this.

Summarizing this, in a flow of water the upstream part of the body up to the thickest section is less critical than the remaining downstream section. In our fish, it means that the shape of the head is less critical than the shape of the tail.

While one end's shape is more critical than the other there is no reason for not combining the two triangles base to base in a spindle-shape. (Figure Three) This gives us a smooth entry through the water and little turbulence leaving it, and is the basic shape of fish. The majority of the internal organs and adaptations for different feeding habits are concentrated in the less critical head end. This explains why trout and pike are so different in the head region and so similar in the tail region.

So far we've streamlined the fish, but we haven't yet discovered what makes it go. When you've skinned out your day's catch, you may have noticed that the meat on the fish's side is in a series of muscle blocks closely packed together. Two-thirds of a trout's weight is in these muscle blocks and each one, by contraction and relaxation, controls part of the movement. As the fish swims, its brain sends a wave of contraction through the muscle blocks on one side starting at the head and proceeding to the tail. At the same time, a wave of relaxation is going down the other side. These alternating contractions and relaxations seen in Figure Four in effect always put part of the fish's side facing to the rear. As the rearward facing area progresses toward the tail, it pushes the water back with it. For every action there is an equal and opposite reaction and the action of water being pushed back causes the reaction of pushing the fish forward. This then is how he swims. It

continued on next page
FISH POWER

is so effective that a trout from a resting position can cover 2" in 1/20th of a second. However the speed that fish can sustain for longer periods of time is considerably less. The rainbow trout's maximum speed is 3.6 mph and a minnow, the dace, can muster 3.9 mph. The northern pike is one of the speedsters of freshwater with a maximum speed of 4.8 mph.

Another interesting point in the discussion of fish speed that we've all noticed but perhaps never understood, is that swimming speed and hence fighting power are related to the size of the fish and the frequency and amplitude of the tail beats. That is why the big one can put up such a struggle; and also, because of rapid tail beats, why some small fish seem to put up an inordinately strong fight.

The tail can also be used as a rudder to control the direction of travel. I've been speaking of the tail as the part of the fish from its thickest point back to the end of the tail fin and not just the tail fin. The tail fin enhances the propulsive ability of the tail and adds refinement through better control.

So far we've only considered the tail's function in swimming, but there are other fins on a fish. Generally when swimming rapidly, the fish folds these fins back against the body to increase its streamlining; but in normal cruising and feeding movements, these fins play an essential part.

We have two types of fins to consider. The most noticeable ones are the dorsal and ventral fins. As their name implies, they are the ones lying in the midline of the fish, one on the back and one on the belly. Their main function is much like the feathers on an arrow—to stabilize the fish as it swims. The swimming movement of the tail produces a yawing tendency in the fish and these fins damp that yaw by adding resistance to sideward movement. These fins are made up of more or less bony rays with membranous skin stretched between. Anyone who has caught a perch or walleye has probably felt these rays before he has seen them. For the biologist, a count of these rays in the dorsal and ventral fins can distinguish between similar fishes such as black and white crappies.

Some fish such as our bowfin have a dorsal and ventral fin the length of the tail and joining with the tail fin. This fin can be undulated much as the tail is in swimming to give a very slow movement to the fish, scarcely noticeable to the fish's next meal.

The remaining two types of fins on fish are called paired fins. SUCCEESIVE POSITIONS of the same eel shown during swimming illustrate what makes a fish move through the water. The lower case a, b, c, are successive waves of contraction while the capital A, B, C are the convex bulges formed opposite them. The X indicates surfaces which move backwards with the contraction wave, pushing water and driving the fish forward.
AN EARLY SPRING morning on a favorite lake, is a great way to enjoy yourself.

POWER GALORE and lots of open water is a good way to fulfill the competitive urge (left) or standing midstream in spring's warm sunshine may be the answer (right).

WATER SKIING is loads of fun for those agile enough to participate.

IF YOU'RE ONE OF THOSE PENNSYLVANIA CITIZENS WHO LIKES TO GET OUTDOORS THIS IS THE TIME OF YEAR WHEN YOU'LL START ENJOYING...

Keystone Watersport

APRIL—1969
THE URGE PROBABLY first stirs during those few warm days in March when the returning sun overthrows the chilly wind and bathes the countryside with a warmth nearly forgotten. By April many Keystone Staters are bursting with eagerness to get outdoors and enjoy the budding life that has started to appear. 

Water, and the sports it provides, will play an important role in Pennsylvania’s recreation for the next several months. Whether it’s water skiing, houseboating, fishing or just swimming Pennsylvanians and outsiders will enjoy some part of Pennsylvania’s many waterways this season. Some will find moments of solitude; others will join relatives and friends for group fun.

During March and early April streams and lakes throughout the state are being stocked with thousands of trout. Every day truck load after truck load are hauled from Commission hatcheries for delivery to all parts of the state to provide fun and excitement for those fishing in Pennsylvania. Nearly two million trout will be released by the Commission, Cooperative Nursery Clubs and the Lamar National Fish Hatchery by opening day April 12.

At the same time boaters are taking their boats out of storage for another season of water fun. Canoes, kayaks, rubber rafts now begin appearing on upstream waters in great numbers as many people enjoy a different look at the countryside by floating through it or seek the challenge and thrills of white water.

Power boaters also begin to appear at this time of year. From Allegheny County where nearly 12,000 boats were registered in 1968 to the mountain counties where only a few boats are registered, power boats of all description churn the water. Last year nearly 95,000 power boaters used the state’s waters; this year it may reach 100,000. Already boats are beginning to appear on major waters such as the Ohio, Allegheny and Monongahela and soon upstate vacation areas such as the Poconos and the Kinzua Country will be sporting recreational boats by the thousands.

Pennsylvania’s thousands of acres of water; hundreds of miles of stream slightly swollen by last winter’s snow, will soon be swollen another way—by thousands who enjoy Keystone Watersport!
FISHING MAY BE the all time favorite way to enjoy oneself!

PICTURES
Bill Miller
Tom Eggler
A CIRCLE on a buoy—number one—indicates edge of a controlled area. The circle is orange and lettering stating restrictions are in black. The flag shown in number two is used to mark a boat being used to pick up water skiers. It is white with a red stripe. The two ski symbols are also in red. The other flag—number three—is used to designate an area where divers are working. It is red with a white stripe. Buoys of a solid color—black or red—are used to mark channels. When proceeding upstream black marks the left and red marks the right. Coming downstream it's the reverse, of course. Number five is a mooring buoy—it's white with a blue strip around the center. Number six is a mid-channel buoy. Boaters may pass safely on either side. It's white with black stripes.

WATERWAY MARKERS

HAVE YOU EVER STOPPED to consider how confusing it would be if every town or city you drive through had a different set of symbols for highway traveling? Can you imagine a blue traffic stop light, a black stop sign in a triangle shape, a blinking green caution light?

Until a few years ago this would have been a description of the nation's inland waterways markers. Conformity was sadly missing between water areas and states in marking water traffic routes and obstacles.

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Just about anyone can fire up a power boat and head for a spin on Pennsylvania's many waterways but the trip may be a short one for the inexperienced boater who doesn't know what all those buoys mean...

**SPECIAL WARDEN** Glenn Klinger gets ready to begin setting buoys. During 1969 some 812 will be placed in Commonwealth waters by the Pennsylvania Fish Commission as navigational aids.

Waterway Markers / **KNOW THEM!**

by DEAN KLINGER

Chief Marine Services Specialist

PENNSYLVANIA FISH COMMISSION

APRIL—1969
WATERWAY MARKERS

In the Keystone State the much needed system to assure conformity came as a result of the Pennsylvania Fish Commission adopting the “Uniform Waterways Marker System” as approved by the Advisory Panel of State Officials to the Merchant Marine Council, United States Coast Guard.

Boatmen should be familiar with the different colors and symbols to insure safety afloat on Commonwealth waters as well as the inland waterways of other states.

The color red is always used to mark the right side of a channel traveling in upstream direction or returning to port. A good rule to remember here is Red Right Returning.

The color black is used to mark the left side of a channel traveling upstream or returning to port.

Channel marking buoys may be used in pairs with the red and black across from each other or they can be used singly in a staggered fashion on alternate sides of the channel spaced sufficiently close to each other to inform the boater where the channel lies. In the event any of these markers are numbered the black ones will use odd numbers such as 1, 3, 5, etc. and the red ones will use even numbers such as 2, 4, 6, etc. Most Commission owned buoys have a three inch band of retro-reflective tape near the top to permit safer night navigation. Green tape is used on black buoys and red tape on red buoys. This tape reflects even the smallest amount of light. And certain hazardous areas of heavy nighttime traffic have buoys which are equipped with automatic flashing lights. Black buoys use green lights and red buoys use red ones.

Black and white vertically striped buoys are used to indicate the middle of a channel. They may be passed on either side.

White buoys are used for many different purposes. The important thing to watch on a white buoy is the orange symbol and the black lettering.

An orange square or rectangle is used on a white background to give information such as distances, names, availability of gas, oil, etc.

An orange circle on white background indicates controlled areas such as 5 MPH, NO FISHING, SKI ONLY, etc. This information should be adhered to by the boatmen to avoid violation of special rules and regulations.

An orange diamond on white background warns mariners of danger in the area. The black printing may read ROCK, SHOAL, STUMPS, etc. Extreme caution should be used in these areas.

An orange diamond with a cross inside it on white background means “BOATS KEEP OUT.” It may be lettered in black as SWIM AREA, DAM AHEAD, RAPIDS, etc. An operator should not go past any of these markers for the safety of himself and his passengers. And legally, going beyond this type of buoy is evidence of negligent operation.

All white buoy with a blue stripe horizontally through its center indicates a mooring buoy. This is the only type of buoy that can be used for tying a boat. It is extremely important for a boater to never hamper with or tie up to a regulatory marker as this could possibly move it off station.

A boater should never rely completely upon the location of a buoy until he has checked with familiar landmarks because of the possibility of storms, logs, or other debris moving them from their intended position. Any aids to navigation which are off station should be reported immediately either to the District Waterways Patrolman or to the owner of the buoy whose name should be printed near the waterline.

Last season 492 Commission owned buoys were in use on Pennsylvania waterways along with several hundred owned by clubs and individuals and approved for installation by the Waterways Division of the Commission. Present plans include an increase of about 70% of Commission owned buoys for the coming season.

The entire program is possible only through the splendid cooperation between boating clubs and rescue organizations whose members spend countless hours per season caring for, checking and maintaining the buoys so pleasure cruisers are assured the full value of the program.

If for any reason a boater has an accident involving a buoy it must be reported as soon as possible to the Commission in writing.

Occasionally some buoys have been damaged or destroyed by vandals. However the cooperation and watchful eyes of our many water users has lead to the vandals who have been apprehended and dealt with according to the law. Remember if you see anyone tampering with or destroying an aid to navigation it is not only the fact that you helped pay for it and own it, but the fact that your safety afloat is also at stake.

Author Dean Klinger checks the position of a marker on the lower Susquehanna. Danger markers, such as this, usually have the nature of obstruction marked inside. This buoy is one of a type now being widely used by the Commission in its waterways marking program.
This is the time of the year we've all been dreaming about all winter long but if the days are still a bit too chilly for boating try your hand at this nautical crossword puzzle.

ACROSS
1. At a right angle to the keel.
2. The middle of a boat.
3. The opposite of aft or after.
4. To pack the cargo.
5. A nautical name for rope.
6. On the water.
7. Objects placed along the side of the boat to keep the hull from chafing.
8. A device used for bailing.
10. Mixed with fuel in an outboard.
11. To fasten by means of a knot.
12. The forward edge of a fore-and-aft sail.
13. The outboard end of a small boat.
15. The main center-line structural member, running fore and aft along the bottom of a boat.
16. A piece of wood or metal, with projecting ends, to which a line is made fast.
17. Towards the stern.
18. The upper edge of a boat's side.
19. A system of planking in which the outside planking of a boat is flush.
20. The wheel or tiller by which a boat is steered.
21. The movement of the water in a horizontal direction.
22. A good tool to have on board.
23. To remove water from a boat.
24. The upright post or bar of the bow.
25. A devise used for steering or maneuvering.
27. A boat's lower internal part.
28. The forward part of a boat.
29. A seat extending across a boat.
30. The water.
31. A buoyant life saving device.
32. The body of a boat.
33. A pennant.
34. The wheel or tiller by which a boat is steered.
35. The body of a boat.
36. A devise used for steering or maneuvering.
37. The movement of the water in a horizontal direction.
38. Fire extinguisher classification.
39. The moving waves, track or path left by a moving boat.
40. A hood shaped covering.
41. A system of planking in which the outside planking of a boat is flush.
42. A bar or handle for turning a boat's rudder or outboard motor.
43. The forward part of a boat.
44. A system of planking in which the outside planking of a boat is flush.
45. Initials of a U.S. Coast Guard Auxiliary safety program.
46. The forward part of a boat.
47. Classification of a boat less than 16 feet in length.
48. A hood shaped covering.
49. Initials of a Federal boating organization.
50. The right side of a boat when facing forward.
51. Toward the stern of a boat.
SAFARI is easily recognized by the spicy fragrant smell of the broken twigs, by the root beer odor of its roots, and by its fan-shaped leaves in three designs. Author J. Almus Russell examines the plant.

NO ONE PLANS TO GET LOST. Still it happened. With nearly two million acres of Pennsylvania State Forest land open to fishing, hunting, and camping, getting turned around is not difficult.

Forewarned is forearmed, however. If you plan to fish in strange territory, let the local forester or waterways patrolman know. Then in case you do not return by a specified time, he will have a general idea of where to start looking for you.

Before leaving for that fishing trip, provide yourself with a good map of the area. Also a compass. Learn to read both. Keep local landmarks in mind such as trees, ridges, ponds, and swamps. Take matches in a waterproof case, a cigarette-lighter, fly-dope, and a day’s emergency rations.

In case you have omitted this equipment, you may still “stay found” if your map is in your mind. Sun, stars, wind, and landmarks form a natural compass. Thick hemlock branches usually point to the east. Plant growth on the north side of a hill is less lush than on the south side. The compass goldenrod, a late flowering species, has heads bent toward the north.

Blaze trees in a straight line to avoid walking in a circle. Don’t necessarily follow streams down hill. They may end only in marshlands, bogs, or remote ponds.

In case you are lost, shelter, fire, and food are necessities. Fish may not bite, porcupines may not be around to be stumped with a club, but edible plant roots, and berries are usually to be had. They will supplement emergency rations and can prevent starvation if you were to be lost for a long time.

And even if you have no difficulty in finding your way back to camp, gather some of the streamside plants, roots, and berries. Then experience the thrill of preparing and eating some unusual dishes. You will be surprised at what delicious food nature provides.

For instance, a marsh full of cattails yields a food dividend from spring to fall. This plant is adapted to live in moist stream inlets, swamps, and marshes.

Dig the starchy underground rootstocks, dry them, and grind them into meal. This flour makes an excellent thickening for meat stews. It may also be used in bread.

In the spring, the thick peeled shoots of the plant may be eaten raw as a salad or cooked as a vegetable. At the junction of the sprouts and rootstocks is an enlarged starchy core the size of a finger-joint. This also may be roasted or boiled.

Cattails bloom from early July to late August. They may...
be gathered any time during that period. The green bloom-spikes when removed from their papery sheaths and boiled in salt water, make a delicious vegetable with the flavor of green corn. They should be eaten hot with melted butter.

The ripened blooms eventually become covered with a coating of yellow pollen, fine as sifted flour. Bend these heads over a pail. Rub the pollen off by hand. Then shake it through a fine-meshed sieve. Such “flour” makes a nourishing and flavorful ingredient for golden cattail pancakes.

The arrow arums, found in marshy areas, all bear edible tubers. They are easily recognized when in flower. They have slimy, white three-petalled blossoms, arranged in circles of three near the summit of the flower-stalk.

The root-fibers spring directly from the base of the cluster of arrowhead-shaped leaves with the tubers often borne several feet from the parent plant. These range in size from peas to eggs. Cook them in the same way as potatoes to bring out their distinctive flavor.

Another arum, the wild calla lily, grows freely in shallow water or muddy muck. The plant has deep green leaves, one-half to one inch in diameter. Spathes enclose pale white blossoms similar to the cultivated variety.

After these acid and caustic roots are dried and boiled, they may be ground into flour and made into nutritious bread.

As soon as the ground is thawed, often in February, the skunk cabbage pushes through the ground. Sometimes its spearlike spathes melt their way upward through an inch of ice or several inches of snow. First appears a leathery, shell-shaped spathe shaped like two cupped hands. Inside is a globular mass of lavender-colored flowers.

A week or two after the first flowers appear come the leaves, rolled up somewhat like a cabbage in tight cones. While the odor of the plant is that of a skunk, no trace of the smell is given off in the cooking. It is suggested, however, that the heads be cooked in several waters to which each time a pinch of soda has been added. This is said to make a fair vegetable.

Eat the leaves in the spring while they are tender. Dig the roots in the late autumn for grinding into flour. One average root produces about half a cup.

The groundnut was called Indian potato by the early settlers. It grows in moist earth near a supply of water. The tubers, one to two inches in diameter, mature in August and grow just beneath the surface of the ground as if fastened to a string. They have a smooth, sweet turniplike flavor.

Cook groundnuts like potatoes—boil, hash, or fry them as you like.

In ponds and streams, in stagnant pools and tarns, grow the swanlike white water lily and the coarser yellow lily. These starchy-rooted plants belong to the arrowroot family. Their roots are prepared by boiling them with meat or roasting them. The Indians gathered them in great quantities from the muskrat houses where these animals had stored them for the winter. They also parched the seeds, eating them like popcorn.

A stately grass rising from two to twelve feet above the water bears wild rice. This native grain grows in ponds, swamps, and streams. The seeds form on purplish spikes occupying the tip of the panicle. These are concealed in a long-bearded husk loosely attached to the branches.

The rice should be harvested just before the kernels are ripe. The stalks are bent over into a boat or canoe. Then continued on page 49

THREE COMMON wild foods shown here are (left) the cattail. The starchy underground rootstocks and young, asparaguslike shoots are edible as well as the green bloom spikes and the "flower" made from the pollen.

White water lily (below) is the most beautiful and most fragrant of the lilies. The starchy roots of this plant were used for food by the American Indian by boiling them. The bulbous roots of the great yellow water lily were eaten for food in the same way.

Dandelions (right) is a common "wild" food, easily recognized and easily prepared.
High riding dry flies might be hallmarks of the accomplished angler. But sometimes it pays to fish them like an unaccomplished one!

by S. R. Slaymaker II

When dry flies get wet

by
S. R. SLAYMAKER
TO SOME, ANNIVERSARIES ARE STOCK-TAKING times for reflecting on lessons learned from the passing years' successes and failures. Like Samuel Pepys, who measured from the day that he was "cut for the stone," many pick very personal reference points. Mine comes on the second Saturday of April, Pennsylvania's first day of trout season. This anniversary—unlike some others, birthdays, for example—has the merit of being breathlessly awaited. So much so that it's become more than simply a time to reflect on fishing lore acquired since the last opening day. Rather, its importance is manifest by the fact that the darkest things happen on this particular day by way of lessons learned or unlearned. Were some of these experiences to come to pass in mid-season they might well go unnoticed. But never on Opening Day. Nineteen-sixty-eight's was no exception.


At noon the Reverend Sam Huffard arrived from East Stroudsburg, where he had recently assumed the pastorate of the First Presbyterian Church. Sam, formerly my minister in Gap, Pennsylvania, and I had gone on Pocono fishing jaunts for ten years. So it was a happy coincidence that his new call landed him in the heart of some of Pennsylvania's prime trout water. Not that this was purposely contrived on Sam's part. Perish the thought! For there were reasons bearing on challenges of an ecclesiastical nature, the validity of which I'm not so rude as to question.

Before Sam's departure for the Poconos the previous winter, we were both in dire need of blue dun gamecock necks, indispensable for the tying of such early season musts as Quill Gordon and Hendrickson dry flies. Genuine blue dun hackles insure maximum floatability. Dyed imitations don't. Minister's salaries rarely permit thirty to forty dollar indulgences in genuine hackle. And Mrs. Slaymaker made it clear that "no mangy old chicken neck" was going to preempt the children's new shoes. So we settled on ersatz blue dun necks at a more reasonable $5 each.

The diary goes on: "Shortly after Sam arrived, Quill Gordons began to hatch. By 2 p.m. temperatures approached the high seventies. Flies were coming off the water in fair quantities. Trout took slashingly, just under the surface . . . It was time to fish dries!"

I had a few beautifully tied Quill Gordon dry flies left over from the previous season. Custom tyer, Jack Montague, of Suffern, N. Y., had given them to me. Jack's ties sport only the best of materials. So I vowed to conserve them, thus precluding use of those latest facsimiles of phony blue dun. On glassy slicks and tea-colored glides the little #14 imitation rode as erectly as its natural counterparts. Now and again a trout swirled under it. But there were no takes.

Sam, well upstream, appeared frustrated. I could tell from his too pronounced back cast, punctuated by impatient glances in my direction. Figuring that his new flies might be sinking, I moved up to offer one of the Montague numbers.

"This thing won't float," he muttered on starting to pick up line. "Fibers are too supple—oops!"

Water crashed. With his tawny flanks a-glitter, a foot-long brownie arched out of white capped riffles. The fish fell back with a ringing surface-spank and sped upstream to a deep cut bank. Steadily retrieving slack, Sam advanced, his line taut and rod held high. Increasing pressure on the fish spurred it back to mid-stream. After some lateral runs, followed by a long one up the middle, Sam was able to drift the lovely trout to net.

"Pure luck," he grinned. "But ya' know, I'm going to stick with this thing."

I remonstrated to the effect that a dry fly fished wet or—in this case—nymph fashion, wasn't proper. "Dries should be fished dry and wets wet," I reminded him. But he refused my stiff-backed Quill Gordon and went back to casting.

In scant minutes he was into another brown. Then another. All the while his fly rode sub-surface. A wisp of curling hackle, protruding like a warped periscope, was the sole indication that the fly was meant for the surface.

"I've never seen such a sloppy sight," I told him; going on to cite mutual friends of the purist persuasion who would not be amused. But Sam was undeterred. He rose a lot of fish over the next hour, missed some, lost a few and

continued on page 51
UNSUCCESSFUL “EXPERTS” —
Three fellows I know recently took a ten mile float trip down the Allegheny River from Thompson Eddy to the Pennsylvania Fish Commission’s Access Area at Tidioute. This stretch covers a distance of approximately ten miles. Not one fish was caught by this trio of supposedly “expert” anglers. However, upon return to Thompson Eddy to pick up the other car, they got into a conversation with a Mrs. Smith who lives nearby. She produced four very nice walleyes which she had caught during the afternoon! — Waterways Patrolman BERNARD D. AMBROSE (Elk County).

FINAL SUCCESS —
While vacationing in Wyoming County, we saw a young man catch a nice 27 inch walleye. He hooked the fish while fishing from a boat. His buddy rowed to shore where he could play the fish to a better advantage. Three boats floated past while he battled the fish and each time he would ask to borrow a landing net. No one had one. He worked the fish to shore several times and his friend tried to land it with the slatted seat of the boat. At last he picked it up with his hand and threw it up on the bank. — Waterways Patrolman BERNARD D. AMBROSE (Elk County).

UNBREAKABLE BOND —
Here is a timely tip for trout fishermen that was told to me by Don Jordan of Jordan’s Sport Shop in Punxsutawney. Fishermen strive to make the smallest knot possible when tying leader to a fly line and many use a no-knot eyelet to achieve this purpose. If you are using a hollow fly line, Don Jordan suggests you feather the end of your leader with a knife, making it rough. Then coat the leader with epoxy glue and insert it two or three inches into the hollow fly line. Allow to set for three or four days. Results: An unbreakable bond is formed between line and leader — and the best part is that there are no knots. — Waterways Patrolman JAMES F. DONAHUE (Jefferson County).

CLOE LAKE CROWD —
The opening day of the 1968 trout season was expected to be a big event at the Pennsylvania Fish Commission owned Cloe Lake in Jefferson County but nobody anticipated it to be as big as it was. Opening day more than 300 cars and 1,200 fishermen surrounded the lake with more than 60 boats afloat, and I’ll bet ’69 will do even better! — Waterways Patrolman JAMES F. DONAHUE (Jefferson County).

FISH TALE BATTLE —
Deputy Game Protector Steve Hale of Tionesta, tells a fish tale about a fish tail! He was jigging for walleyes in the Allegheny River near the village of Trunksville and hooked into what he thought was the granddaddy of all Allegheny walleyes. After a battle which lasted well over half an hour, he landed the monster — and found out that it was a big old carp. It was 3½ inches long, weighed over 20 pounds, and measured 2¾ inches at the girth. He had hooked it in the tail! — Waterways Patrolman JOSEPH KOPENA (Forest and Clarion Counties).

EASY TROUBLE! —
During small game season, I saw a man walking toward his car from the direction of the Allegheny River. As he was carrying a fishing rod, I stopped to check his license and to see if he’d had any luck. The first thing he said when I approached was that he had just seen a big 8 point buck. I asked if he planned to try for the deer in the coming buck season but he said “No, I don’t hunt. It’s too easy to get into trouble. I’ll stick to fishing.”

“What kind of trouble are you talking about?” I asked.

“Well, whoever heard of carrying a loaded fishing rod in a car, or fishing after hours, or fishing in a safety zone, or fishing within 25 yards of a road? You don’t have all those worries when you go fishing,” he said.

The story should end right there, but it doesn’t — in his trunk I found two illegal trout! — Waterways Patrolman GEORGE R. JONES (Warren County).

DRESSED FOR SPEED —
While on patrol near McKeesport, I checked the newly constructed Fish Commission’s Access Area at the mouth of the Youghiogheny River. A group of young boys with homemade go-carts were using the long, sloping, black-topped ramp as a go-cart track. One lad with a go-cart named “The Bat Mobile” would race down the slope and land with a huge splash right in the River. But what really

illustrations by Paul Sowers, Allegheny County Waterways Patrolman

NOTES FROM THE STREAMS

PENNSYLVANIA ANGLER
safety goggles and a scarf flowing from around his neck!—
Waterways Patrolman JAMES R. SMITH, (S. Allegheny County).

MAGIC TOUCH?
When checking a father and his three sons who were ice fishing on Promised Land Lake, I found they had an agreement that when one boy caught a fish on a tip-up, he had to give up that spot to the next boy whose turn it was to catch a fish. For some reason, the spot didn't seem to make any difference to the one son. No matter where he moved, he caught fish, so they finally gave up the game and let him choose his own spots. He still caught about twice as many fish as the other three. It just goes to show you that a lot of fishing is just plain being lucky.—
Waterways Patrolman JOSEPH E. BARTLEY (Pike and Wayne Counties).

COOPERATIVE CO-OP
The Potter County Anglers Club was very generous again this year to Tioga County. About 1,250 trout were stocked in Beechwood Lake for winter trout season by the club. Rainbow trout weighing from 5 to 7 pounds were included in the load of fish, which contained many brown trout nearly as large. This is a very fine example of what one cooperative nursery can do for fishing in an area.—
Waterways Patrolman RAYMOND HOOVER (Tioga County).

MR. FISHERMAN!
Ralph Meyers of Huntingdon has a reputation for being one of the finest fishermen in this area. Part of his success can be attributed to the fact that he begins his real serious fishing just when most other anglers are putting their gear away for the winter. Around the beginning of October, Mr. Meyers concentrates his efforts at the Raystown Dam with his main target being the largemouth bass. His job allows him several hours on the water during the late afternoon and evening hours. He uses but one lure exclusively, a minnow-shaped deep running killer, that accounted for one hundred and thirty-three largemouth bass during the months of October and November. Many of the fish are in the three to four pound class and occasionally he lands one five pounds or better. His effort and success has earned him the title “Mr. Fisherman” in Huntingdon County.—
Waterways Patrolman JAMES T. VALENTINE (Huntingdon-Fulton Counties).

FOUND WALLET
Mr. George Alderson of Altoona was boating at Glendale Lake on August 17, 1968. He had motor trouble and was busy working at it when he noticed he no longer had his wallet in his pocket. He marked the spot by noting the trees along the shore. Keeping in mind the lake was to be drawn down, he told only his wife about the spot where he had lost it. On September 22—34 days later—he found it in the mud. My father, mother, sister and brother-in-law were nearby when he gave a joyful yell to his wife. They said he could have been heard for a mile. In the wallet were all his cards he normally carried and $58.00.—
Waterways Patrolman CLOYD W. HOLLEN (Blair County).
THE GRIZZLED OLD ANGLER was sitting on the bank of his favorite trout stream—at the same spot where he had been on opening day for the past 35 years—intently watching his bobber floating on the surface of the rippled water. This year fishermen were everywhere along the small stream and conditions were crowded, to say the least. Opposite the old man, a neophyte angler was wading closer and closer toward the old gentleman. Then when he was about ten feet away, he joyfully shouted, "Hya, Old Timer, how they bitin'?" The old man expertly spat a stream of tobacco juice, shot the newcomer a steely glare and said, "How the $&*; I would I know; you're stepping on my bait!" Peals of laughter erupted from other nearby fishermen and the newcomer made a hasty and embarrassed retreat.

The opening day of trout season in Pennsylvania has become a ritual with many Keystone anglers and, hopefully, it will continue to be a day of anticipation for both oldtimers and newcomers. That fishing is fun is definitely emphasized on the opening day of the season. How can you evaluate the sight of a freckle-faced young boy or girl struggling to impale a squirming worm on a hook, or the joy experienced from a leaping, twisting first caught trout? Just observing this occasion is fun!

Probably one of the most gratifying scenes I have ever witnessed was a father and his five children fishing on opening day. The youngsters ranged in age from about six to twelve and as I watched I was glad to see he had had the wisdom of providing them with decent fishing equipment. When the fish started to bite, three or four of the kids had a fish on at the same time and that's when the fun started—what a sight! The kids were squealing and shouting with excitement while dad scurried from one to the other to help land the fish. Man, he didn't get too wet! After about an hour, the fish stopped biting and peace and tranquility returned to the scene. Father hadn't fished at all but the

Those funny Opening Days!

by PAUL ANTOLOSKY
Superintendent
H. R. STACKHOUSE TRAINING SCHOOL
look of happiness on the faces of his children had provided him with much greater satisfaction. What a story "Mom" must have heard that night. If you've never tried it, for real fun, take a boy or girl fishing.

Another incident I remember clearly is the time I was checking a couple of fishermen on opening day and a nearby youngster, realizing who I was, yelled, "Hey, Mr. Warden, I caught my limit too; you wanna' see 'em?" I replied, "I sure do, Son," and he proudly and very gingerly had four trout and four suckers on the grass for my approval. I just didn't have the heart to tell him that he only had four trout. Instead I patted him on the head and told him, "You're a real fisherman, Son." The fact that he was having fun was the important thing, and I wasn't about to dampen his enthusiasm.

On another opening day when I was working as a law enforcement officer, I recall one angler I checked along a mountain stream who, when I inquired as to how his catch had been, triumphantly replied, "Real good, I got six beauties!" He proudly opened his creel to display his fish, but instead of six, we could only see one lone trout. I can't begin to describe the look of bewilderment on his face! Further investigation revealed that there was a hole in the corner of his willow basket and he had apparently lost the biggest part of his catch along the stream somewhere. His main concern was that his wife would never believe him.

Or how would you like to be in on the scene when the "unlucky" angler arrives home? After getting up at 2:00 a.m., waking up all the kids and the wife before he departs on the mighty excursion, driving 200 miles to his favorite stream, and then returning home with only two seven inch trout to show the wife and kids. "But Honey—they just weren't bitin', etc., etc." he explains. I've often wondered how many promises of a new dress or a new hair-do have been made by fishermen to console their non-fishing better-halves before departing on an opening day venture.

And how do you figure the guy that checks and rechecks all his equipment before departing on that first day trip and after finally arriving at the stream, finds to his amazement that he forgot his rod? Maybe not so funny at the moment, but I'll bet when he retells the story, everyone listening is laughing.

I suppose what really constitutes fun in fishing is demonstrated by the following example. One opening day I checked an angler for his catch while he was fishing in Spring Creek which, by the way, still harbors its share of large trout. This particular angler had a beautiful catch of eight trout, ranging up to 24 inches. In fact, the smallest one was 14 inches long. And yet, the angler said, "Yeah, they're nice except for that small 14 inch." I walked upstream muttering to myself, "What does it take to please an angler?" The next man I checked, however, really brightened my day. When I asked how his luck was, he told me, "I only caught two trout, but isn't it a beautiful day? Feels good to be outdoors again after the long winter." His broad grin and cheerful manner convinced me that he was the one that was having real fun.

I can recall another time when I was watching a blind young man fishing on opening day along Penns Creek. He was using a spinning rod and having trouble with his bait hanging up in the top guide of his rod. After each cast he would retrieve by winding his spinning reel, but invariably he'd wind too far and his hook would catch in the tip guide. He'd patiently undo it and cast again. I asked if I could be of assistance. Searching through his tackle box I found a large split shot, pinched it on his line about a foot from the bait, and told him to cast. He did, and then started his retrieve and this time, when the split shot stopped at the tip guide, he knew he had to stop winding. After watching him make four or five successful casts, I wished him luck and told him I was leaving. His parting remark to me was, "Hey, Man, this fishing is really fun now!"

Opening day of trout season is always crowded, and after personally observing many opening days, I really believe that these crowded conditions add to the fun of the day. How else can you explain the same people coming back to the same places, year after year? The fact that we are a gregarious lot by nature, permits us to tolerate crowds and even enjoy them. It's pretty much the same as the feeling you share when you're at a big football game and you find yourself talking to the stranger sitting beside you when your team makes a touchdown. Before the game is over, you've discussed the plays, the teams, etc. And most fishermen are pretty much the same, comparing catches, asking each other what the fish are taking, and simply enjoying the antics and humor of each other. These feelings all increase tenfold and the air of excitement quickens when the fish are biting and everyone is having fun.

As for "tasteful" outdoor pleasure, I can't exclude that unsurpassable aroma of frying bacon and eggs, hot steaming coffee, or the taste of a fresh caught trout turned to a delicious, crunchy brown in the pan. Whether you're fishing out of a camp, a pitched tent, or a camper, that kind of living sure adds up to a lot of fun.

Whether it is the excitement you see in the eyes of the youngsters on their first opening day, or the satisfaction of your own enjoyment after your 5th or 20th opening day, I'm sure you'll agree wholeheartedly that the opening day of the trout season in Pennsylvania is great fun for one and all.

And to provide continuous fishing fun is the ultimate aim of your Pennsylvania Fish Commission!
NEW LIFE —

mining in the State over a hundred years ago, it’s simple enough to see that we’re not going to lick this problem overnight,” Dr. Charmbury said. “But at least through our research—and nobody anywhere knew what a mine water neutralization plant would even look like four years ago—we have begun the first steps towards ultimate total reclamation.”

Currently, the Department now has some $18 million committed to 35 projects to either temporarily or permanently abate abandoned mine drainage problems all over the State.

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TROUT FISHING TYPES

have long suspected that their husbands were odd creatures so perhaps through these explanations they will better learn to live with their problems and maybe even gain some insight to the driving compulsions that turn their handymen-husbands into “trout-chasers.”

TYPE 1. This is the “Call of the Wild” fisherman. Far away places are always beckoning to this soldier of fortune. At the mere mention of fish hitting at Lyman Lake in Potter County, this brave piscator has the family bus loaded to the gunnels with enough equipment for an assault on Mt. Everest. He seldom brings anything home, but that does not dampen his enthusiasm for the next time—and there is sure to be one. (This type always lives very near an excellent trout stream which he never fishes.)

TYPE 2. This is “stay-at-home-Charlie,” the one stream die-hard. This persistent soul learned to fish on the old Mill Stream. He caught a trout there in 1939, and he refuses to forget it. He fishes the same pool, with the same fly or bait, at the same time—day after day after day after day. This type seldom catches any fish either, but he’s not nearly so hard on the bankroll as type 1.

TYPE 3. This is the “Early Bird.” A well known variety who has his neighbors believing that he never sleeps. (Some other types fall briefly into this category on opening day.) He is a very noisy individual who invariably awakens the whole household with his preparations. The muffler on his car is always cracked, a quality which endears him to all who live along his route. This chap always takes on a Royal Coachman. (This type always lives very near an excellent trout stream which he never fishes.)

TYPE 4. This is the live bait lover. He spends much more of his time procuring creeping crawling things than he does in actual fishing. This amateur zoologist believes that any living creature which can be impaled on a hook is worth a try. He disdains the standard anglerworms and minnows. Instead, he is constantly searching for exotic fish food such as catalypa worms, leopard frogs, black salamanders, baby field mice, green crickets (these are very hard to come by), hellgrmites and soft shelled crabs. This Frank Buck of the angling fraternity also catches a few trout (they are usually taken on angleworms after his supply of super-secret bait is exhausted).

TYPE 5. Here we have the fly fisherman. He uses streamers, wet flies, dry flies, nymphs, and all sorts of feathered creations as the notion strikes him. His vest always contains at least fifteen or more fly boxes. His off-season time is spent pursuing these boxes to see what more he could possibly add to them. Much time is spent deciding what should be the ideal combination of flies to carry. This fellow is most generally a fly tyer, and a moth in the house is likened to a Chinese invasion. His fish are always taken on a Royal Coachman.

TYPE 6. This is the most hopeless case of all. He is the Tackle Buyer. He does not fish more than once a year, and he usually lives in large cities. His uncontrollable desire to purchase tackle has left him a little punch drunk. It is impossible for him to pass by a fishing goodie counter without investing in another $25.00 worth of assorted knick knacks. They seldom see the water, but he has a great time assorting the flies, changing lines, oiling reels, polishing lures, and such putting around.

TYPE 7. This is the “gentleman angler.” This fellow has passed through one or more of the other stages and he has reached what he considers the apex of trolling. He does not deem it sporting if he cannot catch his trout on a number 14 Quill Gordon dry fly. A rising trout will hold him spellbound for hours as he casts mechanically to it. This type will forsake home, family, dog and job when trout are rising. He justifies this by saying that “this may be the best night of the year.” This type is also a skillful tree climber. This is caused by the amount of time his fly spends attached to the uppermost branches of the only tree within four hundred yards of the stream.

Undoubtedly, if you are placing yourself, or a fishing associate in one of these categories, you feel that some overlapping will be necessary. Feel free to do this. I have discovered that fishermen are very flexible when being fitted into these types. In fact, as I look this survey over, I discover that I fit into almost all these slots! Where do you fit?
THE QUICK KILLER

winter. The life preserver must be worn. Flotation jackets which can be worn all the time, replacing the hunting jacket are another answer. All charts showing survival times in cold water are based on men using life preservers or another means of staying afloat.

Extra precaution must be taken when using a boat in cold water. Don't stand up in the boat. Learn to cast from a sitting position. Don't venture out on unfamiliar waters such as fast moving rivers. All boats that venture out of protected harbors or bays to distances exceeding a half mile from shore must have a life raft aboard. Knowing that a person will only have the use of his arms for about five minutes in cold water doesn't give him much chance of survival.

Most important, don't capsize. And this can only be prevented by learning about your boat and how to handle it. Only through education can one become competent in boat handling. You might take a free boating course such as those offered by the Pennsylvania Fish Commission Waterways Division, the U.S. Power Squadron and the Coast Guard Auxiliary.

Only through boating education can the one who survives be you.

REFERENCES


FISHING OUTLOOK

no good bets while Lawrence County has the North Fork of the Little Beaver River which is probably the best there.

Lancaster's Dutch Country has seven miles of the West Branch of Octoraro Creek and Lebanon County's Tulpehocken is good.

Lehigh County offers the Little Lehigh and Luzerne County plenty of lakes and streams and the Lehigh River at Stoddartsville is excellent. Lycoming, in the heart of good trout country has Lycoming Creek, Loyalsock Creek and Muncy Creek—all good bets.

In McKean County's Marvin Creek and Potato Creek get a lot of attention and in Mercer County the Little Shenango River heads the list of trout waters. Penns Creek, well known over the state, heads Mifflin County's trout streams. Monroe County is blessed with many fine streams. Two of the best are the Broadheads and the Bushkill.

Unami Creek in Montgomery County and Mahoning Creek in Montour County are both popular while Hoken-daqua Creek and the Bushkill are the best of those in Northampton County. The Little Shamokin Creek in Northumberland and Laurel Run and Little Juniata Creek in Perry are good.

Philadelphia County, even with its huge population, has the Pennypack and the Wissahickon. Good fishing in Pike County can be had at Shohola Creek, Lackawaxen River, Fairview Lake and Lake Wallenpaupack for huge brown trout.

Potter County, said to be the best by many, has a lot of outstanding trout waters. Heading many fine ones are the upper Allegheny River, Kettle Creek, Oswayo Creek, Pine Creek and its branches, and the Sinnemahoning and its branches. In Schuylkill County Deep Creek and the Pumping Station Dam are both good. Snyder County has Middle Creek and Somerset County is fortunate in having numerous good trout waters headed by Laurel Hill Creek.

Sullivan County's Loyalsock Creek and the Muncy Creek are good early season bets while Susquehanna County fishermen try Quaker Lake and the Meshoppen Creek. Tioga County's list of streams is headed by Pine Creek through the Pennsylvania Grand Canyon.

Penns Creek as it flows through Union County is good and Little Venango County has three good streams in Oil Creek, Pithole Creek and Sugar Creek. In Warren County many first choose the Brokenstraw.

Washington County has Dutch Fork Lake, Canonsburg Lake and Ten Mile Creek. Wayne County has plenty of good trout waters with the Dyberry and the Equinunk Creeks heading the list. Westmoreland County has Loyalhanna Creek and Keystone Lake and Wyoming County has the Meshoppen and Bowmans Creek. York County's best is probably Muddy Creek.

Before embarking on a fishing trip this year check the 1969 Summary and Regulations booklet. It contains, besides the seasons, sizes and creel limits a listing of all trout waters, boundary water regulations and a complete listing of all the Waterways Patrolmen in the state. It also contains special regulations for certain ponds and lakes and a list of the Fish For Fun and Fly Fishing only streams and their locations.

Good luck opening day!
WATERSHED ASSOCIATIONS
by Walt Peechatka

MANY OF YOU MAY RECALL the story about the college geography professor who asked the following question of his class. "What is a watershed?" A bright young miss in the front row replied, "It's one of the buildings behind the farm house in which the water supply for the farm is stored."

This story may seem humorous at first but in reality it should tell us something. Perhaps if the young lady had been questioned further and about what a watershed association is, she might have discovered that it was a group of landowners who owned these watersheds.

How many of our 12,000,000 citizens know that a watershed is, in simple terms, a drainage area, and that a watershed association is a group of interested citizens who live in the watershed?

Past experience has shown that watershed associations have been the nucleus for coordinating local efforts on conservation, water pollution control, and related watershed activities. With this in mind, representatives of various state agencies are developing an educational program which it is hoped will encourage formation of new associations and strengthen old ones.

The program content includes information on how to form an association, the values of such an association and the problems that may be encountered. A highlight of the program is a slide presentation by a representative of one of the outstanding watershed associations in the country. Illustrated are some of the problems that association encountered and the methods they used in dealing with these problems.

Programs have been presented at 4 regional locations and two more are scheduled. So far meetings have been held at Lebanon, Huntingdon, Latrobe, and Franklin. Two programs now scheduled for April are: April 8—Dallas, Pennsylvania (College Misericordia, Science Building) and April 9—Lock Haven, Pennsylvania (Lock Haven State College, Raub's Hall).

To emphasize the importance of these fins, biologists have removed both pectoral fins on an experimental fish. This caused the fish to sink downward at the head and assume an oblique position. Removal of pelvic and pectoral fins on one side caused the fish to roll over to that side. When all the paired fins were removed, the fish turned belly up.

The remarkable sensory apparatus a fish possesses allows it to compensate for some changes. Running down the middle of each side is a lateral line. This line is actually a series of pressure sensitive cells that can detect changes in the fishes' position. As long as this remains intact, the removal of one fin can be completely compensated for by the other fins.

This very slight inconvenience to the fish of a clipped fin can be an extremely important convenience to the biologist. Fin clipping is a relatively easy and harmless way to mark fish for management and research studies.

On many fish such as salmon, trout and whitefish, the adipose fin serves a function. It is a small vestigial fin behind the dorsal fin called the adipose fin. It serves no function, but it is an excellent fin to clip for marking. Sometimes it seems as if that's its sole purpose.

Marking of fish by clipping a fin or by a tag is one of the most useful tools in fishery management. But its success depends solely on you, the fisherman. If you catch a fish marked in one of these ways, record where you caught it, when, its weight, length, what kind it is, what fin was clipped, and if you can, scrape a few scales off its side and press them between some paper. Send this information to the Benner Springs Research Station, R.R. No. 1, Box 200-C, Bellefonte, for the sake of better fishing.
STREAMSIDE SURVIVAL

The grain is beaten out with a stick. It is dried in the sun or over a fire and the chaff is winnowed out. More use of this delicate grain would be made if people recognized it.

Shadberries, huckleberries, and cranberries all grow around streams. All provide food and thirst-quenchers to the lost fisherman. All are easily identified.

The shadberry varies in size from a bush to a tree of considerable size. Its small apple-shaped fruits ripen from late July to late August, varying in color from red to purplish and blue-black. They contain ten seeds.

When the berries are cooked, the seeds soften and flavor the dish. In fact, the fruit may be used in any way in which huckleberries are.

Huckleberries and blueberries are fond of growing in wet areas. The true huckleberry is jet black, contains ten large seeds, and grows knee-high in sour, peaty soil near water. It is unusually sour with a distinctive flavor.

In contrast, the blueberry may grow from foot-high lows to the twenty foot high bush. The berry may run from deepest blue to black with a luscious sweet flavor. The seeds are so fine as to be hardly noticeably.

The ripening season runs from the beginning of July for the low-bush to the middle of October for the shade-ripened very highbush. The latter may lean over the water to such an extent that the picker has to wade or canoe to pick them.

A person lost in the woods will find in the blueberry both a thirst-quencher, and a food supply which may be eaten raw or stewed. Seasoned with a little salt, the berries are often sweet enough without the addition of any sugar.

Another appetizer when eaten raw is the cranberry. It ripens in October in beds growing on spongy wet hummocks and tussocks. The berry is also found along meandering meadow brooks and in the famous cranberry bogs. While the area around them may be dry, the raker often has to wade for them in the water which has been flooded over them to protect them from the frosts. At this time their color is from whitish-pink to deep red.

Cranberries are not too easy to find. They grow in isolated bogs, deep swamps, and deserted meadows. In addition, they grow on creeping vines not over three inches high, bearing tiny glossy leaves.

The Indians cooked these berries with maple sugar or honey long before the coming of the white man. They were also the first American berries to be eaten in Europe.

Many edible greens grow along watercourses. Some must be cooked. Others may be eaten raw or cooked. Such as one is the cowslip which blooms in April and May. It has deep green succulent leaves with orange-yellow flowers similar to buttercups. The plant grows from one to two feet tall in moist marshes, swamps, meadows, and brooksides. It has been esteemed as a green for two hundred years.

The roots may be cooked as a vegetable, resembling sauerkraut in texture. The buds, pickled in vinegar, make a true wilderness relish. And the leaves along with their thick hollow stems produce an excellent green when boiled. The raw leaves must not be eaten because they contain a poisonous glucoside which is expelled by the cooking.

The dandelion is too well known for need of description. This herb blossoms from spring to fall.

Only the large fresh leaves should be eaten as a raw salad or in cooked greens. The boiled roots are said to be the equal of parsnips or oyster plant. The golden blooms make a bitter wine.

In temperate climates, watercress may be gathered every month of the year. This green is at its best when found in cold-running brooks. Pinch or snip off the cress at the surface of the water. Eat it raw or boil and serve it like spinach.

Another meadow green is the sweet flag or calamus. It also grows in shallow water, on pond edges, and along sluggish brooks. The plant has yellowish-green leaves shaped like narrow, two-edged swords. These have cut many a barefoot boy’s tender feet. The flower is a dry, fingerlike spike.

In the spring when the stalks are about a foot high, the tightly compressed unfurled leaves in the center of the young stalk are sweet and tender, making an excellent salad. Slice on top of them a quantity of the peeled young stalks to complete the dish, dressing it lightly with oil and vinegar. This salad has a spicy taste and a pleasant aroma.

For a forest tea, consider the sassafras. This shrub and tree grows on sandy slopes next to streams and damp soil. It is easily recognized by the spicy-pungent smell of the broken twigs or by the root-heer odor of its roots.

In addition, the sassafras is easily spotted by its green branchlets and fan-shaped leaves in three designs—"mitten with a thumb;" "mitten with thumb and little finger;" "mitten without thumb."

An aromatic tea is made by boiling the roots in hot water.

A distinctive coffee may be produced by roasting dandelion roots for four hours or until they break with a snap and appear dark brown inside. Use less of the ground material than with coffee. It is better served without cream or sugar.

The seeds of the arrow arum are slightly sweetish, tasting like parched Indian corn. The Indians used them as a substitute for pepper.

The Herb Robert with its greatly cut leaves and magenta-rose flowers enjoys the dampness of rocks. Hunters and fishermen lacking salt have picked the leaves, pulverized them by burning, then used the ashes as a salt substitute.

Finally, as a confection-coughdrop, boil sweet flagroot, cut in lozenge-sized pieces for several hours or until tender. Then simmer the lozenges in rich sugar syrup for a few minutes. Lay them on waxed paper to dry.

The candied root has a gingery, soapy taste, making a pleasant nibble or a natural coughdrop.
BACKCOUNTRY CAMPING—

APRIL! THE MONTH WHEN NATURE sits up, yawns, rubs her eyes, then quickly becomes obsessed with transformation into the green-clad freshness of spring.

Back in remote sections of timberland, brookies offer an exceptional challenge at this time of year. Trout are frisky in waters swollen by melting snows. Adding appeal, many headwater and feeder streams throughout the state are seldom visited by anglers.

A stream which heads far away from a road is a good bet. You will probably have a sizable stretch of water all to yourself. In fact, the farther you go on foot, the less chance you will have company. The real way to enjoy such a venture is to walk in, set up camp, and be ready for a full day's action after a comfortable sleep in the outdoors.

Forget the heavy tent, the campstove, lantern and other so-called essentials for camping. The answer here is lightweight backpacking gear similar to that used by hikers. You'll be surprised at how little you actually need.

The best backpacks, not only lightweight, but designed for comfort, cost $20 to $30. Many good units are less expensive but the "open bag" type should be avoided. Units with compartments are far easier to tote over rough terrain.

We purchased Gerry Vagabond packs for the whole family. Manufactured by the Colorado Outdoor Sports Corporation, the units have side straps for fly rods or other extra gear. The pack has a built-in frame for controlling weight distribution. If carrying heavier-than-normal loads, we add a bit of padding to the frame for total comfort.

Gerry packs are good for all-around use at any time of year. Others equally good are those manufactured by Himalayan Industries, Monterey, California; Kelty Pack, Inc., Glendale, California, and Alpine Sport, Inc., Boulder, Colorado, just to name a few.

If you plan to use a pack just for trips to secluded trout streams, walking distance will probably not exceed four or five miles. A growing number of people have found the Allegheny National Forests, state forest lands and other places off the beaten path provide opportunity for extended jaunts of 40 or 50 miles, possibly longer. If that should appeal to you, selection of the proper pack is important.

Comfort is essential if walking any distance. This is where compartmented packs fill the bill perfectly. Heaviest items should be carried high, at or above the shoulders, never on the lower portion of the back. Sleeping bags go on the very bottom, either inside or outside the main pack.

Another feature to watch for is the ability to adjust the height of the pack without taking it off your back. It should be carried high while walking uphill, lower on the downhill side. With this ability you walk naturally at all times.

A warm sleeping bag is essential for April nights. Goose down bags provide the greatest warmth but are usually expensive and limited to cold weather. The traditional three-pound Dacron bag will be warm enough in most cases. A suit of insulated underwear provides the answer for extremely cold weather.

Most modern sleeping bags do not compress readily. Goose down is an exception. Down that fills 600 cubic inches will compress to 20 cubic inches, perfect for nestling in a backpack. If using Dacron or other synthetic fiber bags, first fold lengthwise, then roll tightly. Sleeping bags carried outside the pack should have a waterproof cover.

"I UNDERSTAND YOU'VE NEVER BEEN LOST YET . . . "

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MODERN CAMPING

Ultra-lightweight tents on today's market are nothing short of amazing. Some nylon units are large enough for three or four men, have ample head room for standing and are complete with sewn-in floor and screened picture windows.

We found the Gerry Three-Man Camponaire tent sufficiently large for two adults and two pre-teenaged children. It has a floor space of 6' x 8' and a center height of five feet. Tent, fly, telescoping poles (outside) and pegs weigh a total of six pounds, 14 ounces. The whole outfit rolls tightly and occupies only a portion of one backpack compartment.

The Alpine four-man Expedition tent weighs just six pounds and has a floor space of 6'10" x 8'. Poles are erected inside. Height at center is six feet. Poles and rainfly add an additional three pounds.

Individual one-man tents cut down on both weight and cost. Such a tent will weigh under two pounds and provide plenty of room for storing gear. An advantage here is that less clear ground area will be required.

A lightweight tent not only serves the angler-backpacker, but is ideal for canoe or small boat trips. There are, however, certain problems with outfits of this type. Nylon fabrics do not retain water repellency long after being subjected to the ultraviolet rays of the sun. Plastic coating prevents leakage from rain but often collects a pint or more of condensation on the inside before morning.

The cure is a simple nylon fly several inches above the tent. Water vapor passes through a non-coated tent surface without condensing. Temperature inside a small tent tightly closed will usually be ten degrees warmer than outside. If additional heat should be required, never use anything but a catalytic heater in an enclosed tent. Fumes could be fatal.

If weather is not unusually cold, you can do without a tent. Insect pests are not prevalent and severe storms are unlikely in April. Many people fashion several sheets of plastic into a simple but serviceable lean-to.

You will need protection from the damp ground at this time of year. This again can be accomplished with a sheet of plastic. It is advisable to have either a small canvas tarp or a backpacker's mattress between the sleeping bags and plastic.

A topographic map of the area will be worth its weight in dry flies. With such a map you can see just where a particular stream heads, where feeder streams enter, likely spots for beaver dams and other factors which enter into the serious business of catching trout.

A word of caution is in order. Backpacking into a remote campsite near a gushing mountain stream loaded with scrappy brookies could become habit forming. It is an adventure which may take the edge off other types of angling. Imagine waking at dawn, woods echoing with bird song. Soon woodsmoke and brewing coffee mingle with the aroma of pine. "Trout for breakfast, anyone?"

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When dry flies get wet

landed many. My high riding offering did next to nothing. There were a few swirls under the fly and only one nine-incher fell victim to it.

Finally I guessed at what was probably going on. Winter-leaned trout were probably so ravenously eager for the season's first hatch that they took before flies were completely surfaced. This explained the sub-surface swirling. They had obviously been feeding on the moving nymphs earlier. My morning success bore out the fact.

Now, as the flies were emerging, action was approaching the surface.

The situation, then, called for wet flies, fished near the top. But after a long winter the sight of the season's first hatch bred an uncontrollable temptation to fish dry flies, even if I had to let them get wet!

Having rationalized Sam Huffard's bizarre technique I was quick to adopt it. I didn't even dress a fresh Quill Gordon, tied from the ersatz neck. It soon got quite wet.

A husky brown smashed noisily top-side in a complete cartwheel and raced to the stretch's riffled head, running my reel for the distance. Then he coursed downstream. So he continued downstream. I jogged along the bank, below him. In a shallow and narrow alley he was successfully headed off. Again the fish moved up, against a strong current. Before reaching the pool, he paused and tried to jump. His vividly marked torso got half-way out. But he sank back. It was easy to drift him to my net.

Perhaps it was because of this game attempt at a last jump—or was it the brilliant coloration that marked him for a native that irrevocably moved me to release him? But release him I did.

The diary tells the rest of the story. "We had heavy action all afternoon with our 'wet' dry flies. Each of us landed over a dozen legal size trout, and I don't know how many were lost. Celebrated with a steak dinner at Mountainhome. Went to Sam's service on Easter Sunday. Was back on-stream alone for awhile in the afternoon. Situation back to normal."

I simply meant that the wet dry flies would no longer work. The same hatch was on again. But fish were taking on top, sometimes spectacularly, in surface clearing leaps. I did very well in proper fashion with the Montague Quill Gordons. For now the trout's tempo was back to normal.

Thus passed another of those special anniversaries. Like others, over the too rapidly circling years, it had its lesson. As I said, the darndest things happen on opening day!
In the Fallling Spring I saw a fine trout.
He was lying quite still trying to figure things out.
Just then a fat insect caught the trout's eye,
And up to the surface he flew for the fly.
"Delicious," he cried, "if such things fill the air
T'were better by far, to leave here and live there."
So hoping to feast on many flies more
He leaped from the water and died on the shore.

MORAL

Be always contented; but if you must aim higher.
Think twice, lest you leap from the pan to the fire.

W. W. BRITTON
BEDFORD COUNTY'S Yellow Creek produced this limit of brown and rainbow trout for John Patterson of Lilly. He used a fly rod, automatic reel, minnows.

LEBANON FISHERMAN Gene A. Hitz caught this whopper of a brown trout from Lion's Lake on opening day last year. It measured 28 1/4-in. and weighed 9-lbs. He was using spinning equipment and a dartele. It won him an Angler Citation.

THOMAS BRINCEK of McAdoo landed one of the biggest trout caught in Pennsylvania in 1968. This 27 1/2-in. 6 1/2-lb. brownie was caught in Francis Walter Dam with spinning gear and jitterbug in September.
Right—JOE STABRYLA of Pittsburgh became a Junior Citation winner when he landed this 18-in., 3-lb. brown trout from Canonsburg Dam. He used spinning gear when he made the catch in December.

Left—COHO were caught by angler Bob Schoeller of Erie last fall when a few thousand early run jacks began to run. This pair each measures 18-in. and weighed 3½-lbs. apiece when caught offshore from Godfrey Run. Both hit a silver Swiss Swing.

BIG MUSKY caught by James Williams of Hyndman last May. It went 44-in., weighed 21-lbs. when landed from Shawnee Lake. He won membership in the Husky Musky Club.

RAINBOW taken by Dan Tabella, Aliquippa measured 24-in. and weighed 4-lbs. from Sugar Run.

BIG walleye was caught by six-year-old Lisa Poont of Windber. It weighed 4-lbs. and measured 25-in.

FORKSVILLE angler Jim Englert became a Citation winner with this 23½-in., 6½-lb. largemouth bass he landed at Camp Brule, Sullivan Co.

SENIOR Citation was won by fisherman Steve Borowski, New Castle whose daughter Cindy holds the 21½-in. 4½-lb. smallmouth bass.

DISCOVER HOW YOU CAN WIN A PENNSYLVANIA ANGLER FISHING CITATION!

If you’re one of those successful anglers in 1969 who lands a trophy size fish, then you’ll probably want to receive an official Pennsylvania Angler Fishing Citation. Find out size minimums as well as other rules by writing: “Citations,” Education and Training Division, Pennsylvania Fish Commission, Box 1673, Harrisburg, Pennsylvania 17120.
FISHERMAN NORM SHORTS of Saegertown holds big walleye he landed from French Creek near the mouth of the Conneautee. It stretched 36-in. and weighed 9-lbs. 6-oz. Shorts was using a white jig when he hooked the trophy fish in November.

CLEARFIELD angler Donald Barley, 14, won a Junior Fishing Citation when he landed this 22-in., 3½-lb. walleye at Glendale Lake.

ROYERSFORD fisherman Paul R. Hallman holds this 22-in., 4-lbs. 4-oz. brown trout he caught last spring at Chester County's French Creek.

GEORGE KINEDINST of York became a member of Pennsylvania's Husky Musky Club when he landed this 41-in., 16-lb. 5-oz. trophy while fishing the Susquehanna River near Brunner Island.

JOHN KEEFER of Mechanicsburg won a Husky Musky Club Honorable Mention when he hauled in this 35-in. 12-lb. muskelunge while fishing the Susquehanna River in York County. He made the catch late in July.

JOHN Hunsberger Jr. of Easton was fishing the Bushkill when he landed this nice 22-in. 1¼-lb. brown trout.

LLOYD KAPCEIVITY of Valiant holds stringer of bass and perch he landed while fishing Lake Erie.

RICKEY MUMMERT, 10, of Westminster holds 28-in., 4½-lb. northern he caught last fall while fishing Codorus Creek in York County.

TRACEY WOJCHEHOSKI of Shamokin Dam won a Junior Fishing Citation for her catch of a 34½-in., 23-lb., 2-oz. carp from Penns Creek.

APRIL—1969
ANGLER Earl Naugle (left) of Selinsgrove landed this 27-in. 7¾-lb. catfish from the Susquehanna River. Chain pickerel was caught at Lake Gordon by Jack Dunn (center) of Cumberland, Md. It measured 23-in., and weighed 4-lbs. Havertown angler Francis Barker (right) landed this 16-in. 2½-lb. bullhead from the Schuylkill River.

BROTHERS Danny and Larry Keifer of Cornwalls Heights hold nice stringer of trout, bass and suckers they landed while fishing the Neshaminy Creek.

JUNIOR CITATIONS were awarded to 11-year-old Louie Price, left, of Salit for 20-in. largemouth bass and 12-year-old Gregory Adams, right, for 27¾-in. carp.

LANDSDEALE angler Freddie Mason, 12, won a Junior Citation for this 18-in. 3-lb. largemouth bass caught on a Rebel.

MECHANICSBURG angler, 5-year-old Scott Keeler won both Junior and Senior Fishing Citations for 11-in. rock bass.

LEWISTOWN'S Larry Swishtzer opened the season right last year when he landed this beautiful brown trout.

SHAMOKIN angler Clem J. Dadurka won a Senior Citation for this 21¼-in. 4¾-lb. smallmouth bass. Bait was a minnow.

BARRY CORKLE, 15, of Highspire landed this 34-in. 11-lb. musky that won him a Junior Citation as well as a Husky Musky Club Honorable Mention.

PAUL HAERTEL, left, of Clifton, N.J. won a Junior Citation for the 24-in. 3-lb. 11-oz. chain pickerel, while Brian Cain, right, of Williamsport won a Junior Citation for this 19-in. 4-lb. brown trout.

JUNIOR CITATIONS were awarded to 11-year-old Louie Price, left, of Salit for 20-in. largemouth bass and 12-year-old Gregory Adams, right, for 27¾-in. carp.

DENNIS HILL, third from left, of Johnstown won both a Junior and Senior Fishing Citation when he caught 15¼-in. 2-lb. bullhead. Fishing pals not identified.

FISHERMEN Tom Rowan, 15, left, of Brockville and Mark Witmer, 12, right, of Biglerville both won Junior Citations when they each landed trophy fish.

PAUL HAERTEL, left, of Clifton, N.J. won a Junior Citation for the 24-in. 3-lb. 11-oz. chain pickerel, while Brian Cain, right, of Williamsport won a Junior Citation for this 19-in. 4-lb. brown trout.

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FISHERMAN JIMMY REDDINGER of Mayport, left, landed a big northern pike while fishing Mohoning Dam. It measured 34½-in. and weighed 7½-lbs. Angler Robert White of Allison, center, won a Senior Citation when he landed 22½-in. 3-lb. 9-oz. smallmouth bass while fishing Conneaut Lake. And 9-year-old fisherman Daryl White of Indian Head, right, landed a 20½-in. 4-lb. rainbow that won him a Junior Citation.

HARTSTOWN ANGLER Richard "Red" Williams took second prize in the Genesee Fishing Contest and won a Senior Fishing Citation for his catch of this 21½-in. 5-lb. 12-oz. smallmouth bass.

WATERWAYS PATROLMAN Robert Ferry of Columbia, Montour, and Northumberland Counties holds nice stringer of big walleye he caught in his district.

PAUL GEMBERLING holds big catfish he landed while fishing the Susquehanna River. The large "cat" weighed 9-lbs. and stretched 25-in. Bait was not listed.

CONTEST SPONSORED by Big Laurel Sportsmen Clubs of Dysart produced trophy trout for anglers Bruce Matish, a 19½-in. rainbow and Rosie Giongfrido with an 18-in. rainbow.

SEVEN-YEAR-OLD Sheila Bente of Annville won a Junior Fishing Citation for her catch of a 19-in. 3½-lb. largemouth bass caught from Memorial Lake.

SUCCESS struck twice in Lake Somerset for anglers Fred Schmucker and Lee Weimer, both of Rockwood. Schmucker caught the muskie and Weimer landed the northern pike.

FISHERMAN Ralph Hewitt of Fayetteville, left, holds 26½-in. 8-lb. 2-oz. walleye while Martin Snyder of Levittown, right, holds 42½-in. 23-lb. muskie he caught at Shawnee Lake.

ALLQUIPPA angler Charles Jones, left, holds seven large fresh water drum, three largemouth bass, and two perch. To the right Bobby Head of Sharon holds 26½-in. 3-lb. northern.
A FISHING FEATURE FOR FISHERMEN FROM FISHERMEN

FOURTEEN-YEAR-OLD Ray Combine of Sharpsville won a Junior Fishing Citation when he landed a 27-in. 4-lb. northern pike from the Shenango River.

OHIO angler Ben Denly of Cleveland landed this 47½-in. 33½-lb. beauty that won him a Senior Fishing Citation and Husky Musky Club membership.

HONUSDALE fisherman Andy Duley and sons Butch and Bucky with the 23½-in. 6¼-lb. largemouth bass that won him a Pennsylvania Angler Citation.

ANGLER Myron Williams holds big rainbow he caught at Harveys Lake. It went 17½-in.

NEWVILLE angler Joseph Myers, 7, holds brown trout he caught on opening day of winter season from Opossum Lake.

MERTZTOWN fishermen Tom Laudenslager and John Miller did okay on the Little Lehigh last year on opening day.

FISHERMAN Paul "Boat" Carroll of Conowingo, Md. holds the 20-in. 3½-lb. smallmouth bass that won him an Angler Fishing Citation.

HUSKY MUSKY CLUB!
Landed a big musky? You may be able to qualify for membership in Pennsylvania's Husky Musky Club! Find out how by writing: "Husky Musky Club," Education and Training Division, Pennsylvania Fish Commission, Box 1673, Harrisburg, Pennsylvania 17120.
BERKS COUNTY'S Ontelaunee Lake produced this big muskie for Laureldale angler Walter Eckert. It stretched 39-in., weighed 15-lbs., and was taken Sept. 15. Bait not listed.

CONYNGHAM angler Mark Braskie, 16, holds pair of big largemouth bass he landed in August from the Francis E. Walters Dam. One was 21-in. weighed 7-lbs. and took a jitterbug.

CONYNGHAM angler Mark Braskie, 16, holds pair of big largemouth bass he landed in August from the Francis E. Walters Dam. One was 21-in. weighed 7-lbs. and took a jitterbug.

TIONESTA DAM produced this Citation winning 21¼-in. 5-lb. smallmouth bass for Butler fisherman LeRoy Fishel early in October.

ANGLER Fred Kahrer of New Castle landed a 43-in. 21-lb. musky that won him membership.

YORK angler John Reynolds holds 24½-in. 3-lb. 2-oz. walleye he caught at Pinchot State Park.

NEW YORK STATE angler Joseph Lubnewski of Smallwood with a 19-in. smallmouth and three rainbows, one 18-in. and two 17-in. All took wet flies.

CAMP HILL fisherman 7-year-old Curtis Fullen holds 36½-in. 12-lb. 4-oz. musky he caught fishing Opossum Lake in Cumberland County.

ANGLER V. A. Rihs of Pittsburgh holds 34½-in. 12-lb. northern pike he caught at Conneaut Lake.

LARGE catfish caught by 11-year-old Stanley Bracht of York Haven measured 21½-in., weighed 3½-lbs.

EDINBORO LAKE produced 31-in. 7-lb. musky for fisherman Roger Scarlett of Edinboro on his first time out. He caught it about 8:36 a.m., July 6 while trolling.

PICTURES—
All pictures sent to "Fish Tales" should include complete name and mailing address, species of fish, date when and location where caught and bait and method used. All pictures must include the fisherman as well as the fish!

A P R I L — 1 9 6 9
FISHERMEN Dean Halbritter and Charles Baugman, both of Tyrone, hold some big bass. Four of the bass weighed over 4-lbs. each and together they totaled over 22-lbs. Bait and location not listed.

FISHERMAN Mark Palko, 10, of Natrona Heights caught his first musky from the Allegheny River. It won him a Junior Citation as well as Husky Musky Honorable Mention.

NICE CATCH made by fisherman Jim Reader of New Brighton, all within 45 minutes on the North Fork of Little Beaver Creek.

RETURNS—
All pictures used in “Fish Tales” can be returned directly to the angler, only if complete name and mailing address are included on the back of the photograph.

FISHING angler Floyd Beckemeyer won a Senior Citation for his 39½-in. 14½-lb. northern, from Lake Ontelaunee.

HANCOCK New York angler Charles Hawkins holds two big pike. One weighed 11½-lbs. the other weighed 10½-lbs.

BIG CARP caught by angler Walter Papiered in of Philadelphia. Steve and Stacy Costes stand with the trophy catch.

SHARON angler Mike Shuster, Jr. won a Junior Citation for the 28½-in. 5-lb. northern caught in Shenango Reservoir.

PENNSYLVANIA ANGLER
LARGE carp was caught by 15-year-old Daniel Altif of Allenwood. It measured 28½-in. and weighed 12⅔-lbs.

ROCK BASS caught by Sunbury angler Larry Biddelspach, 8, measured 10-in. It won him a Junior Citation. Worm used.

CATFISH caught by Steve Tate of York measured 22-in. weighed 3-lbs. 6-oz. Caught at Muddy Creek, lower York Co.

GAL ANGLER Joan Reitz of Hegins had luck fishing Hazard's Pond. She landed this nice 25-in. 3¾-lb. pickerel.

YOUNG lady Dorothy Himes of Folcroft won a Junior Citation in July when she landed 18-in. 3½-lb. largemouth.

BIG BROWNS were caught by William Hersch of Bethlehem at Lake Wallenpaupack. They measured 17½ and 19-in.

MARK LANE, 13, of Erie got a surprise when he hooked a 3½ foot, 9 pound eel at Beachcomber Beach.

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LARGE WALLEYE was captured by fishing gal Kathy Kozora of Verona while fishing the Allegheny River.

NEW CASTLE angler John Fernandez, 9, won a Junior Citation for the 10½-in. rock bass fishing Bessemer Rod & Gun.

DUSHORE fishing gal Kathy Bohensky landed 27½-in. 7½-lb. walleye fishing the Susquehanna near Wyalusing.

LEWISTOWN angler Robert Carolus caught 33½-in. 7½-lb. muskie fishing the Juniata July 24 on a gold spinner.

WARREN fisherman John Newton caught this big 28½-in. 9¾-lb. rainbow while fishing the tailrace of the Kinzua Dam.
GROWTH—

GROWTH IS THE NEW KEY WORD to add to the word cooperation in discussing the cooperative nursery program these days. In 1967, 60 some clubs had cooperative nurseries; this represented 31 counties with over 350,000 legal trout being raised and released.

Today there are 82 active cooperative nurseries, representing 68 organizations and 35 counties. The gain in trout produced will be quite significant. Let's take a closer look at the growth of this program.

First of all the new nurseries and organizations sponsoring them: From Cameron County, there is now the Bucktail Rod and Gun Club Nursery. The Northeast Hunting and Fishing Club, Erie County, have activated the Dene Nursery and the Kolbe Raceway. Also from Erie County, the Three C. U. Trout Association have increased their holdings by adding the Gaybrook Run Nursery, the Redding Farm Nursery and the Ruppert Drive Spring Nursery. The Nicholson Sportsmen, Wyoming County's first, is now active.

Farther south and east, Cumberland County has added the Shippensburg Fly Fishers Club Nursery and the Mt. Holly Fish and Game Association Nursery. The Adams-town Rod and Gun Club Nursery is a new one in Lancaster County and the Lititz Sportsmen's Association have added a new nursery on Lititz Spring. There are two new facilities in Lehigh County, the Unami Fish and Game Protective Association and the Zionsville Community Fish and Game Association. Perry County enters the picture with sites established by the Blain Sportsmen's Association and the Millerton Sportsmen's Club.

Several of the above clubs finished their projects ahead of schedule and, not content to wait for Commission fingerlings, purchased trout from commercial hatcheries to get started.

Many clubs have taken serious steps to establish nurseries in 1969. Bob Brown, Cooperative Nursery Coordinator, reports the following clubs under consideration: From Region Two: Blair County Game, Fish and Forestry Association; Cresson Community Sportsmen's Association; Dysart Sportsmen's Club; Hastings Sportsmen's Association; Thompontown Sportsmen's Club; and Quemahoning Rod and Gun Club.

From Region Three: Jim Thorpe Sportsmen's Association; Beaver Township Rod and Gun Club; Consolidated Sportsmen of Muncy Creeks; North Montour Sportsmen's Association; Blue Ridge Sportsmen's Club; Central Conservation Club; and the Union County Sportsmen's Club.

Finally from Region Four: Knouse Foods Nursery, an addition to the Adams County Fish and Game Club; Kemps...
The Pennsylvania Fish Commission's role in the cooperative nursery program has been an ever-increasing one. Robert H. Brown's position of Cooperative Nursery Coordinator was established in 1965. A full-time assistant coordinator, Paul Byers, was appointed last year. In addition to the Waterways Patrolmen, force and technicians and drivers from the various hatcheries are available to the cooperative nursery clubs. Potter County Anglers, for example, used three commission vehicles and drivers for their mid-winter stocking of about 30,000 trout.

Meetings, planning sessions, tours and training have all been added to the Fish Commission's participation in the program. Waterways Patrolmen are trained in nursery management.

There's no question about adding the word growth to the word cooperation if you're Casting with the Coops on one of Pennsylvania's trout streams this spring.
PENNSYLVANIA ANGLER JUNIOR CITATION WINNERS Dwight Romberger, Ronald Yurcic and Frederick Williams are presented with their Citations by Special Waterways Patrolman Stanley Long of Lehigh County. Romberger won his Citation for a 21½ inch shad taken in the Delaware; Yurcic caught an 18½ inch brown trout from the Little Lehigh; and Williams landed a 21¼ inch brown trout from Lake Wallenpaupack.

WIN AN AWARD FOR CATCHING A TROPHY FISH IN PENNSYLVANIA!

If you’re one of those hot shot fishermen who manages to land a trophy fish in Pennsylvania during 1969 then you may be eligible to receive one of the most distinguished fishing awards given in the Keystone State. One of the following awards could be yours!

* JUNIOR FISHING CITATION
* REGULAR FISHING CITATION
* HUSKY MUSKY CLUB MEMBERSHIP

For complete information about rules and regulations governing these three awards write the Conservation, Education and Training Division of the Pennsylvania Fish Commission at Box 1673, Harrisburg, Pennsylvania 17120

WATCH NEXT MONTH’S ANGLER FOR A LIST OF 1968 WINNERS!

ANSWERS TO CROSSWORD PUZZLE

ACROSS

DOWN
From A. L. C., Uniontown:

"The styrofoam floats on my dock on the Youghiogheny River are riddled with holes after only one season; what is causing this and how can I prevent it?"

—Your problem is muskrats, which seem to have a great liking for styrofoam. The only successful remedy is to wrap the floats in hardware cloth—galvanized wire mesh of ½ inch spacing, such as is used in making cages for small animals.

From W. L. D., Pittsburgh:

"What is the best way to repair leaking seams in an aluminum fishing boat of riveted construction?"

—The only method that offers much chance of success is silver soldering. Try to find a sheet metal shop that does aluminum ductwork, or you can buy the solder and special flux and do the job yourself with a propane torch. Be very careful not to apply too much heat, as you could melt the thin skin of the boat.

From R. W. S., Gallitzin:

"What is meant by a 'One Design' sailboat?"

—in order to avoid the endless difficulties of handicapping, sailboats are generally raced by class, that is, Stars compete against Stars, Comets against Comets, and so forth. All of the boats of a given class, regardless of who manufactured them, are of one design, having the same waterline length, sail area, and weight. This theoretically insures that the winner of any race will be the best sailor, rather than the owner of the best boat. There are well over one hundred active classes in the United States, each with its national association and member fleets across the country. For specific information on a particular class, drop a note to the manufacturer, and he will put you in touch with the class secretary for that boat.

From J. E. P., Belleview:

"If I trailer my boat to Canada for a fishing trip, will I need a special permit to operate on their waters?"

—Your Pennsylvania registration will be good in Canadian waters for 90 days, but you will have to get a special fishing license.

From W. L. K., Pittsburgh:

"None of the marine dealers I have talked to can help me, but I am sure I read somewhere about a chemical that will restore the strength of dry-rotted wood. What is it and where can I get some?"

—the stuff you want is Calignum, made by H. A. Calahan, Inc., 859 Marmaroneck Ave., Marmaroneck, N.Y. 10543. For the stem trouble you describe, order the 4-oz. kit for $4.80, postpaid. This liquid permeates the area of dry rot, then hardens into a plastic and is very effective for small areas where replacement of the bad wood is impractical.

From G. C. L., Shippingport:

"Why couldn't I tie my boat up to a mooring buoy in the river instead of renting dock space?"

—Provided you obtain a permit from the U. S. Army Corps of Engineers to set the buoy and anchor, there is no reason why you couldn't, although there may be a number of reasons why you shouldn't. There is the problem of getting back and forth from the shore to the boat, which will require another boat, and the difficulty of properly tending the boat and keeping it safe from thieves and destructive vandals. For the security alone dockage fees are a bargain.

From C. J. F., Mt. Lebanon:

"How can I get rid of the dark stains in the mahogany planking of an old speedboat I am restoring?"

—the stains often seen in mahogany are caused by water carrying minerals and other impurities into the pores of the wood where the varnish coat has failed. Get two ounces of oxalic acid crystals from the drugstore, and dissolve in a pint of water. Use this solution liberally on the stained areas to bleach them out, then wash several times with clean water. Sand lightly when the wood is completely dry, and stain immediately.
The Uptight World Unbends a Little When You Begin Discovering Pennsylvania’s Many Watersports. Discover How—Subscribe to the Pennsylvania Angler

(Use the subscription card inside.)