LONG RANGE
OBJECTIVES

Under the federal "Land and Water Conservation Fund Act of 1965," the Fish Commission took part in preparing a comprehensive outdoor recreation plan in cooperation with the U.S. Bureau of Outdoor Recreation and the Pennsylvania State Planning Board.

Since the plan that evolved is to encompass the years 1969 to 1985, we thought best to remind our good readers of the long-term objectives of the Pennsylvania Fish Commission. In very simple terms, our aims are to ensure that our fishery resources and boating opportunities are perpetuated for the use and enjoyment of the people of this Commonwealth—both now and in the years ahead.

More specifically, the long-term plan of the Commission has the following objectives:

1. To perpetuate the production of all resident and introduced species of fish in waters of the Commonwealth through improvements to natural fish habitat, as well as by hatchery reproduction, for their intrinsic and ecological values, as well as for their direct benefits to man.

2. To provide for diversified recreational use of the fishery resources of the Commonwealth through a program of acquisition, development, and management.

3. To provide for scientific and educational use of the fishery resources of the Commonwealth through exhibits, displays, and the issuance of scientific collectors' permits.

4. To provide a maximum of recreational boating opportunity by developing, expanding, improving and maintaining the waterways of this Commonwealth.

5. To provide fishing and boating opportunities within a radius of 25 miles of every Pennsylvanian by the development of access areas, construction of impoundments, purchase of ponds and lakes, and leasing of bodies of water from private owners.

6. Continue to press for the restoration of shad and other anadromous fish species in the Susquehanna, Delaware and Schuylkill Rivers through the installation of fish passage facilities at existing or planned dams, and through improvement of water quality.

7. Cooperate with the Pennsylvania Department of Environmental Resources and other state and federal agencies in establishing and maintaining adequate water quality standards in all fishing and boating waters of the Commonwealth.

To fulfill these responsibilities, the Commission has developed a staff of 417 and maintains certain facilities throughout the Commonwealth. The staff consists of administration, engineering, real estate, fishery, conservation education, marine services, and enforcement personnel. Comprising the Commission's physical holdings are: fish hatcheries, a research station, visitors' centers, maintenance headquarters, regional offices, dams, roadways, special fishing areas, certain natural lakes and ponds, and access areas on public waters that include parking lots, launching ramps, docking areas, sanitary facilities and mooring zones.

In addition, the Commission maintains a fleet of tank trucks, heavy construction equipment, patrol boats, research and work vessels, property maintenance equipment, automobiles, and other miscellaneous field and office equipment essential for the conduct of the overall program.

It is with a great deal of pride that the Commission looks at its accomplishments in the first five years of that long-term plan. Although we have a long way to go, we are determined to stay on the right track and accomplish our goals.

Ralph W. Abele
Executive Director
The Worm Has Turned, by Reid Kling, Jr. ................................................................. 6
Uncle Johnny's Turtle, by Ned Smith .............................................................................. 8
Mostly About Herons, by Carsten Ahrens ................................................................. 10
Fish 'To'-Not 'From,' by Joe Pancoast ...................................................................... 12
Trim It, You'll Like It, by WWP Don Parrish .......................................................... 14
Boating's A Many Splendored Thing, by Stan DuBas ............................................. 16
It Could Be A Nightmare, by Bill Garry ..................................................................... 20
Safe Boating Week Proclaimed .................................................................................. 23

STATEWIDE—2; FISHING OUTLOOK—3; LEAKY BOOTS—4; BOATING QUESTIONS & ANSWERS—22;
STREAM NOTES—24; ANGLER'S NOTEBOOK—26; CO-OP NEWS—28; KEYSTONE CAMPING—29; FISH
TALES—30; TAKING A CLOSER LOOK—Inside, Back Cover.

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ON THE COVER: Our composite cover this month depicts the many faceted joys of recreational boating enjoyed throughout the Commonwealth. The center photo, by well known author/editor Jim Bashline, is of his daughter Tina. In the upper left corner of the cover, Paul Ropp captured some of the fantastic white water action at Ohiopyle. The two anglers enjoying a day of solitude on Speedwell Forge Lake in Lancaster County, lower left, and the pair of successful Coho anglers on Lake Erie, lower right, fell to the Editor's lens. Tom Eggler, former ANGLER Editor, photographed a happy boating family, upper right, returning to the launch ramp at Shenango Reservoir.

NEW LAKE ACQUISITION MAKES MORE PUBLIC FISHING AVAILABLE IN SOUTHWESTERN PENNSYLVANIA

HEREFORD MANOR LAKE, Beaver County, was acquired by the Pennsylvania Fish Commission in time for last April's trout season opener. The 44.6 acre lake, formerly operated privately as a Fee Fishing Lake, received nearly 14,000 rainbows by mid-season. Another lake of 22.7 acres was included in the purchase. Just 25 miles from downtown Pittsburgh, the lake will also serve Allegheny County Anglers who traditionally have been the largest group of licensed fishermen in the state. Nearly 10,000 anglers used the lake on opening day and it has been drawing from 300 to 400 every day since! The lake boasts very good shore fishing for those without boats.

Staff photographer Russell Gettig gave up his opening day fishing to make these photos at the lake that is located along Route 288, just 2½ miles west of Zelienople.
This forty one pound STRIPER was caught last fall by DALE RUKA, of RIO GRANDE, NEW JERSEY, down at CAPE MAY. "It's STRIPERS of this size that we keep hoping for upstream in our section of the DELAWARE RIVER," says STAN PAULAKOVICH, "and we have an unconfirmed report of a twenty pounder taken off TORRESDALE, but until more of these whoppers make their way through the polluted waters downstream, the smaller fish still offer fine sport."

FISHING OUTLOOK

By.. Stan Paulakovich

CATADROMOUS fishes are those which live in fresh water and migrate to the salt waters of the ocean to spawn. We have one representative fish in this class in Pennsylvania, the American eel. It's quite common in most of our lakes and streams which have access to the Atlantic Ocean.

ANADROMOUS fishes, those that migrate from salt water to fresh water to spawn, are more numerous. They include the coho salmon, steelhead trout, blue back herring, lamprey eel and the white shad. Lesser known anadromous species found in Pennsylvania include the sturgeon and, believe it or not, old "roccus" himself, the STRIPED BASS, *morone saxatilis*.

Every surf fisherman's delight, the stripers are probably the most sought after salt water game fish. From Maine to Florida he reigns as "King of the Hill." In its southern habitat, it is known as rock or rockfish. Up north, it is called simply, the striper.

That the striper was once plentiful in our eastern rivers is evident from these excerpts from the report of The Board of Fish Commissioners in 1896.

"Striped bass are known to migrate to the headwaters of both the Delaware and Susquehanna rivers."

"At the Gloucester fishery on the Delaware in 1837 a rockfish was caught in the nets that weighed 76 pounds. It had scales the size of a quarter dollar."

"In the spring of 1893, 1500 pounds of rockfish were taken in one haul of the net at a fishery on the Delaware near Burlington."

Today's population of stripers in the Delaware during their migratory spawning run is something of a puzzle. Biologists working out of the government complex at Rosemont, N.J., and those working for private concerns which are sampling the river at several places, tell of varied results from their trapping programs. Lud Anselmini, project leader for Ichthyological Associates, working out of Bordentown, N.J., at milepoint 125, says that they have taken about 50 stripers in their nets in the last three years. These ranged up to 21 inches in length.

Vic Schuler, project leader at the Odessa, Del. station, at milepoint 60 on the river, has had slightly better results over the same period. Back in 1970, their traps, set near the Chesapeake-Delaware canal, held a huge 55 pound female. When they get to this size they are called "cow bass." Vic says, "the fact that she was here indicates there were others with her in the same size class."

Female stripers can spawn in their third year but most wait until the fourth. At this time they range from 17 to 21 inches and weigh between 4 and 6 pounds. Slightly smaller males can spawn in the second year but generally wait until the third year of life. Water temperatures around 60 degrees trigger the spawning run. Eggs are semi-buoyant and drift a considerable distance over the bottom in the heavy current of the preferred rock, sand and gravel bottom. The gestation period of these fertilized eggs is unbelievable. At 60 degrees they will hatch in 3 days; at 70 degrees they hatch in 2 days! The delicate fry lie on the bottom and live on their yoke sac for 7 days. After this they feed on microscopic crustaceans and insects. They in turn are preyed upon by everything in the river that is bigger than they are.

The Delaware River is a lady of many moods and many faces. Averaging one-half mile wide in the lower Bucks and Philadelphia county area, it has places where the bottom is heavily silted. Other areas are all rock, sand and gravel covered. Throughout the stretch numerous rock ledges or shelves drop off from depths of several feet to narrow pits that may be as deep as 40 feet.

From tidewater at Trenton Falls, milepoint 130, down to the Tacony-Palmyra bridge at milepoint 80, the water quality is fairly good and-sup-continued on page 32

J U L Y -1 9 7 3
I wish to commend the Fish Commission on the very, very fine job that they are doing in this beautiful state of Pennsylvania. I think they are doing one whale of a job to make this one of the best states to fish in. Our trout fishing is fantastic here in Pennsylvania. I just can’t wait ‘til it opens every year. I live in York and do 90% of my fishing in Muddy Creek which I think is one of the finest streams in the state of Pennsylvania. The trout fishing is one program that the Commission has done one whale of a job on. I back the Fish Commission of Pennsylvania 100% for the fine job they are doing for this state. Keep up your good work.

CHARLES BAUBLITZ
York

ENJOYS BOATING ARTICLES—

I mostly fish for bass and walleye but I enjoy all the fishing articles plus the boating articles. I don’t own a boat but fished several times from one. Those articles some people complain about taking space in a fishing magazine just might prevent their injury or loss of life someday. I especially like the “Fishing Outlook” articles as they really keep you up to date across the state.

BARRY MURRY
Lancaster

HAS REGRETS!

I have been a subscriber of the Angler for the past seven years, and I am sending money for one more year, but with regret. It sure isn’t the same good fishing magazine that it was a few years ago I must say! I don’t know why the boating articles have to be included in the magazine. I know you have said in previous articles that boating goes hand in hand with fishing. You must realize that all us fishermen are not fortunate enough to have incomes high enough to afford the boating end of fishing. We must, therefore, fish off the banks of rivers and lakes which so many of your articles do not pertain to.

One other comment I would like to bring to your attention is that I’m sure Allegheny County contributes more license subscribers than any other county in the state. And in return we don’t have many bodies of water stocked by the Commission. I would like to know why you don’t stock Bass in North Park Lake? Thank you.

CHARLES BassetT
Pittsburgh

FISH-FOR-FUN, MAYBE?

I believe that the Fish Commission is doing an admirable job with both the trout and the warm water species. I have been fishing for forty some years, and despite the tremendous fishing pressure placed on Pennsylvania streams and lakes, a person can still enjoy a good day of fishing.

I can’t just keep up this “patting on the back” without getting in at least one “kick-in-the-pants,” so here goes.

One area where I think much improvement for trout fishing can be accomplished is on Tionesta Creek, especially from the Blue Jay bridge upstream way up to Sheffield. The area around Henry’s Mill bridge would make a tremendous “Fish For Fun” area. I am aware that we all have our soft spots for certain areas, but I can be pretty objective when I claim that this stretch of water affords some of the best trout habitat in the country.

GEORGE HALLAHAN
Butler

Your kind words regarding the Pennsylvania Fish Commission’s programs are appreciated. The entire Commission staff works, each in his own area of responsibility, from Fish culturist, Waterways Patrolman, Biologist, to Administrator, to assure that a person can have a good day’s fishing. We’re all pleased to hear that you do enjoy fishing in Pennsylvania and we’ll all continue to do our best to see that the opportunity for good fishing is never lost to Pennsylvania anglers.

I agree with you that Tionesta Creek is a good stream and does have some fine trout habitat. I can easily see why it is one of your favorite streams. Tionesta Creek is in the Allegheny National Forest and all decisions relative to recreational programs on Federal land are made by the appropriate Federal agency. The decision as to whether the section of Tionesta Creek around Henry’s Mill Bridge should or should not be a fish-for-fun area lies with the United States Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, Mr. John K. Andersen, Forest Sciences Laboratory, P. O. Box 928, Warren, Pa. 16365. Mr. Andersen is responsible for managing the fish populations of the waters of the Allegheny National Forest and would be the best qualified to respond to your comments about a fish-for-fun on Tionesta Creek.

I have taken the liberty of forwarding a copy of your letter to Mr. Andersen. Thanks again for your comments on the Commission’s overall program.

Wishing you many more days of good fishing.

Delano R. Graff, Asst. Chief Division of Fisheries

“ALL ONE THING”

I would like to say how my husband and I feel about your having camping articles in the Angler. We like to fish but have the camping bug along with our four sons and the Keystone Camping section is a big help to us along with articles on boating. We feel that fishing, camping and boating are all one thing.

MRS. HARRY W. DRESSLER
Coral

DON’T KNOCK THEM!

Some people don’t care for the boating articles in the “Angler.” If you are a fisherman, then don’t knock them. Some day you might be glad to see that boat, it could save your life.

I am a fisherman, boater and camper. Here in Lebanon County we have a fine WWF and Deputies. They work hard to keep our streams open for fine trout fishing.

DENNIS A. BARNES
Cleona
NEEDS RECIPE

I have attempted to make pickled fish with varying results. Can you help me to find a recipe that would give me excellent results everytime?

I pickle fish using pickling spices, red beet, hard boiled eggs and pieces of onion. I have used white vinegar, and on occasion, apple vinegar. Both vinegar mixes have worked at times, but both have made the fish soft and mushy at times. I've used fish filets (both pre-frozen and fresh) and fish which have not been de-boned. All have pickled alright, and all have failed me at times too.

Am I not using a proper mix of spices and vinegar? Is temperature a factor? Should I cut the strength of the vinegar? Should I add other ingredients or leave some out? How many fish can I pickle at one time and in what size crock?

I hope you have a good recipe or some corrective ideas for me so I can produce some nice firm pickled fish everytime.

Looking forward to hearing from you by letter or through "Leaky Boots."

RICHARD WIDENHEFF
Rochester

NO ARGUMENT HERE!

Trophy fishing in Pennsylvania may be mostly a put and take affair. But, Pennsylvania breeds of trout are really scrappy, fighting, quick, flashy and an honorable class of trout. I don't let tales, of far away places and native breeds, distract me from the great enjoyment of fishing for Pennsylvania Trout. We have a lot going for us. Rare are the places that can match Pennsylvania.

Catch a Pennsylvania stocked trout! Throw him on the bank!! Try picking him up with one hand, (no knees please) and you really have to squeeze to hold him. In my book I'm glad he is there—waiting—every spring OPENING DAY.

ANDREW P. POOLA
St. Michael

TROPHY FISH ONLY

One thing I would like to see more emphasis on is RELEASING YOUR CATCH. After all, a dead fish isn't worth very much but a live one in a stream or lake is worth a lot.

I really wouldn't mind if a "trophy-fish" concept was put into use throughout the state, at least as far as trout are concerned. And I am strongly in favor of doing whatever is necessary to develop and keep self-sustaining stocks of wild trout going as opposed to "put and take" fishing.

DENNIS J. DURKIN
Erie

HERE'S A NEW ONE!

Like most people, I have a suggestion.

Each year there is a bitter argument over inseason trout stockings. It has gotten so bad that the Fish Commission has tried secret stockings to no avail. Instead of trying to outwit the truck-following hordes why not let nature take care of them? Stock the trout at dusk, just before it becomes dark. It is almost impossible to fish trout streams at night. Every cast the angler makes finds his hook snagged on stumps and branches he couldn't see in the dark.

This would prevent the insincere fisherman from trying to catch trout. Any fishermen who does catch a fish has shown a lot of skill and should be rewarded.

In the morning the trout will have spread themselves out over the stream thereby requiring more skill to catch.

Granted, it is a lot to ask the Commission officials to stay at their work till dusk. Only one official need go with the truck to supervise the stocking done by volunteer groups, who are fed up with the truck-following hordes. This little sacrifice is well worth the benefits it will reap in the increased trout population of Pennsylvania's streams.

JAMES FRICKE
New Kensington

WHEN?

My son and I attended the Angler's Show at the VFW in Galeton earlier this year and your representative made out our Angler subscriptions.

I am a member of the Potter County Angler's Club and Pine Tree Club in Gaines, Pa.

How will the streams be brought back to pre-Agnes conditions?

RAYMOND S. KAY
Elmira Heights, NY

Wasn't it Kilmer who wrote, "But only God can make a Tree."

I suppose the same would hold true for streams although our Environmental Services Branch, Division of Fisheries, cooperating with DER is doing a whale of a job in instituting restoration of streams ravaged, not by AGNES, but by man himself—all in the name of "reclamation" or some other term with a "doing good" ring to it.

HE HAD A GOOD TEACHER!


I thought I might add that this boy has landed about 90 legal musky and killed only 4 in the past five years. 18 last fall. The majority were caught on ultra light tackle, 4 or 6 lb line and a ½ ounce bucktail jig he makes himself. The musky fishing right below the York Haven hydro station is something you have to see to believe.

I'd like to thank the Fish Commission for helping to make my kid a fine young man and a true sportsman.

HAROLD BRACHT
York Haven

MONEY SECONDARY!

Because Pennsylvania is one of the few states that are self-sustaining in the Fish Commission programs I feel the money is secondary to benefits that come from the investment. Keep up the continued great work in our state—there are still those that appreciate and remember what your organization does.

TERRY HYDE
Tyrone

APPRECIATIVE—

I think the Commission is doing a fine job, especially at a time when the demand for recreation is high, and the environmental quality is low. Keep up the fine work.

KEN AND CONNIE MERTZ
Danville

JULY—1973
Keep low," "quit stumbling," "don't wade there!"

Those were some of the admonishments made to me almost forty years ago by an old great uncle who was teaching me the basics of trout fishing. The most constant criticism was "walk that worm." Like most neophytes of today, I was getting my first fishing lessons using worms as my bait.

Angleworms, dew-worms, nightcrawlers, garden huckle, a variety of names almost as great as the variety of fish they entice. All fresh water fish, from muskies to bluegills, have at sometime or another fallen for that seductive Lorelei, the earthworm.

As I look back to those early experiences of youth I realize that I was an extremely lucky boy. Old uncle Frank was the best of my knowledge, did nothing but fish, hunt, and on occasion make some moonshine for cash to buy tobacco and table staples. He taught me about the quarry we were seeking, that it was a wild creature, living in clear cold water and was as spooky as a nervous Siamese cat. He would show me where the trout lie, from early spring when the streams were high, right through July when the creek would be low and clear. He taught me the method of impaling a single worm on a fine wire hook, to cast it quartering up the stream, and to walk it down along the bottom in a most natural manner.

Most of the wormers I encounter today, are standing in the middle of the stream with a gob of worms on their hook that is dragging on the surface some distance below them. This method of fishing would have caused uncle Frank to snort, swallow his snuff, and retire to the cabin to find solace with a bottle of "white lightning" until those "damn fools" would get out of the "crick."

Worming is a deadly method for catching trout and can be used throughout the season. I recall an incident that happened many years ago. It was in late July, and the major hatches were over. I was limiting my fishing to the early morning hours from 5:00 AM to 8:00 AM. I was fishing spiders in the low clear water and doing very well I thought. This particular morning my wife had taken me up into the mountains and let me out with the promise to pick me up about 9:00 AM. I fished slowly up the stream and when I arrived at a little bridge where my wife had promised to meet me, I cleaned the four nice trout I had and sat down along the bridge to smoke my pipe and wait. As I sat there smoking, my eyes picked up a movement downstream. Watching the brush, I saw an old fishing friend of mine come into view. He was an excellent wormer, and since he hadn't seen me, I had a ringside seat to observe his technique. Cautiously, and keeping very low to the ground, he lobbed his worm to the head of a riffle that I had just fished twenty minutes earlier. I saw his rod follow the worm downstream and suddenly dip down, his reel gave a screech and he was fast to a runaway brown trout. After it was netted and I had made my presence known, we measured the trout at fifteen inches. A bigger surprise was in store for me as he proceeded to empty his basket that contained four more trout. These were all beautifully colored, deep bodied fish, ranging in size from thirteen inches to the fifteen incher he had just netted. Those trout had all been taken on red worms from a small mountain stream when the creek was low and clear, by a man who had unknowingly fished up the creek behind me. He told me he had not seen my car parked anywhere and he thought he had the whole stream to himself.

Just last season, late in July, my fourteen year old son, using a red worm as bait, caught a 19\frac{1}{2} inch, three pound brownie in the small stream back of our home. One week later he returned to the same big stone that had harbored the three pounder and land-
Johnny Rummel was a young man of twenty-four years when he found the box turtle in "The Hollow," behind his father's farmhouse. And, as many a rural youth had done before, he dug out his pocket-knife and went to work on the reptile's smooth underside. The plastron beneath the thin cuticle was hard as flint, but his efforts eventually produced the incised letters J.P.R. and the date '08 in crude, but legible, characters.

Box turtles are not easily moved to panic, and this one was no exception. If she thought about it for more than a minute after her release, the experience was not sufficiently distressing to cause her to leave The Hollow. Of course, it was no mere whim that brought her there in the first place. Between the farm buildings at the lower end, and Peter's mountain at its upper edge, it provided everything a turtle would want. In addition to the grassy areas which she shared with Rummel's cows there were patches of luscious blackberries, fragrant wild strawberries, and a mulberry tree that dropped its juicy fruits where a turtle could find them. The damp soil harbored in
sects, earthworms and snails, which she relished, and the low spots were creased with watery ditches in which she cooled off on hot summer days. So she stayed on, and The Hollow was her home.

Over the years Johnny Rummel initialed other box turtles, and quite naturally became an inveterate turtle inspector. Frequently, when going for the cows or picking berries, he re-discovered the one he had inscribed in '08.

In 1919 a budding outdoorsman came to live at the Rummel homestead—Johnny's nine-year-old nephew, Myles. For Myles it was a memorable winter. In all his life he had never heard such fascinating tales as those his uncle told of the wildlife that abounded on their Powell's Valley farm and on the rugged mountain nearby. One that particularly impressed him was the story of the old turtle, initialed in 1908, that kept popping up in the same place every summer. Secretly, the boy resolved to keep an eye peeled for her.

With the coming of summer Myles did find "Old 1908," and as he grew to manhood and took over the farming he continued to meet up with her at least once a year, always in The Hollow. And then, in the fall of '36, with the corn husked and winter less than a month away, he realized that the old turtle had not appeared that year. Nor did she show up the next year, or the next. After twenty-seven years she had simply disappeared.

Naturally, Myles assumed she was dead. But old habits die hard, and he continued to have a look at the underside of every box turtle he came across on the farm. Now and then he'd find one that Uncle Johnny had initialed, but Old 1908 was not one of them.

Then, in July of 1969, the incredible happened. Myles was taking a short-cut through The Hollow when he spied the gleaming, high-domed shell of a turtle in the grass ahead. Something told him it was the old one, and yet he wasn't quite prepared for the thrill that came with the sight of those time-worn initials and date when he turned it over with his foot. The old girl showed every indication of being ancient. Long years of crawling through weeds and mud and clambering over stones had worn away most of the black markings on the sides of her carapace. The growth rings were obliterated and once-sharp edges were rounded and polished. Since last seen in 1935 she had met with some unknown misfortune that cost her the toes of her right forefoot. The initials themselves were badly eroded, but not significantly altered since Myles had last examined them. He recalls that Uncle Johnny admitted he should have cut them deeper, especially the "R," which Myles says, "always was a poor one." At any rate, he easily recognized her as his childhood acquaintance, the venerable reptile that carried Uncle Johnny's brand for sixty years and already had outlived that gentleman by two years.

How old was she? Probably no less than seventy-five or eighty years. She was full-grown when Uncle Johnny found her, and box turtles require fifteen or so years to attain adult proportions. Was she the oldest box turtle whose age is reasonably well authenticated? No, not by a long shot, although most stories of ancient turtles should be relegated to folklore, and most of the extremely early dates carved on their shells have been found by herpetologists to be forgeries. What makes Old 1908 unique is that her inscription is genuine and her comings and goings have been noted by the Rummel family for a period of sixty years in the same hollow at the foot of Peter's Mountain.

Three summers have now passed since her last appearance. Some folks would have stopped looking, but Myles Rummel knows that the very next turtle he checks could be the venerable one returned.

J U L Y - 1 9 7 3
Mostly About

HERONS

by Carsten Ahrens

The great blue heron is one bird every outdoorsman or woman must know. It is our tallest breeding bird in the state. It rises to a slender but sturdy four feet with a six-foot wing spread. It isn't really a blue heron; rather, it's blue-grey, plus black and white plumage especially noticeable during the spring mating season.

The bird stalks with great dignity through swamp or about the margin of a pond or lake with the four toes of each foot on one level; one digit pointing rearward and three, forward . . . the middle one armed with comb-like serrations.

As a lad, I was always certain when I saw the motionless silhouette of a great blue heron . . . often supported by just one, long leg . . . that the bird was contemplating great thoughts. The poet, Tennyson, wasn't so sure of that, for he wrote, as I remember it, in one of his "Idylls"

"... Long upon that hour
When the lone heron forgets his melancholy,
Let's down his other leg, and stretching, dreams
Of goodly supper in a distant pool."

In England, the bird is called just "the heron" (Ardea cinerea); in America, it is called "great blue heron" (Ardea herodias). But the birds are so alike that some scientists consider one just the subspecies of the other.

But pollywogs and toads, tadpoles and frogs, water shrews and meadow mice, aquatic insects, and many an unfortunate fish learns too late that "dreaming" the heron isn't. Each tidbit is swiftly stabbed by his long, sharp beak, and shortly thereafter finds itself traveling down that long, slender throat to a gullet that has walls so elastic as to expand to eight times its normal size.

"The Blue Heron" —
by Karin DeStefano
I grew up on the edge of a great swamp near Lake Erie and was a shadow to an Uncle who was an avid birdwatcher. Once he took me to a heronry some 25 miles, as the road ran, from the swamp. Here grew giant swamp white oaks, hackberry trees, and American elms. In each great tree was from one to as many as eight platforms of sticks high overhead in the upper branches. Below it was damp, gloomy, and smelled of decay. But above in the sun and wind, each nest fronted the sky.

Uncle explained if the platform was small, it was probably new, for a heron's nest is a perennial shelter, with new sticks added yearly. The augmented nest is used over and over again by successive heron pairs until the platform's very weight broke the branch or branches supporting it. Walking in the woods was difficult because on the ground was much debris that had once been nests. That heronry was probably already well established when the Pilgrims arrived in the new world. Some ten years ago, I returned to revisit this ancient heronry. There wasn't a tree in sight. The entire area was a sea of handsome, blossoming tomato plants!

COMMON OR AMERICAN EGRET

Back in the mid-1920's, while collecting dragonflies in a far end of our old swamp, I startled a heron. I was startled too; I thought I was seeing an apparition for this large heron was snowy white. Since I'd never observed such a creature before, I jumped to the conclusion this must be a great blue heron albino.

Uncle John was getting along in years, but his eyes lighted up when I told him of meeting my "albino."

"They're going to make a comeback!" he declared; "that was probably an American egret. (Casmerodius albus egretta) Now tell me: was it almost as big as the great blue heron? Did it have black legs and a yellow bill?"

"Ye-es."

"And when it winged off, it didn't give that deep, disgusted 'Gawk' of a disturbed great blue heron, but if it made any sounds, they were much more high pitched."

"That's right," I agreed.

"The American egrets were numerous here in the last century when I was a boy. But early in this century, those crazy plume snatchers almost brought about the bird's extinction. Fortunately, styles in women's hats changed, and the Audubon Society succeeded in getting laws passed to protect these herons. Their comeback shows that conservation works. Time was, in that swale right across the road, I've seen a dozen of those snowy birds . . . like ghosts in the mist. But I haven't seen one in a quarter of a century."

Later in the day I took Uncle John to the place where I had seen the bird, and to our delight, the egret was back fishing. It was a great day for Uncle. For both of us.

American egrets nest in colonies through the South; then as soon as the young birds can fly, they take off in all directions on sort of a grand tour, visiting swamps and lakes all over the country. Many reach the Lake Erie region during July and if fishing is good will stay well into September. They have been reported in Maine and through southern Ontario. Last summer three of us drove from Toledo, Ohio to Erie, Pennsylvania and counted in full view of the highway over a hundred of Uncle John's "ghosts." I wish he might have been along.

THE EASTERN GREEN HERON

The great blue heron looks down on a number of far less regal relatives that also nest in our state. One that is far less numerous than it once was . . . it can't exist along the "dead" water of a polluted stream . . . is the eastern green heron. (Nycticorax nycticorax) It was the one the German farmers who lived around us ineluctably called the "shite-poke."

Common names for the herons aren't very helpful, for the eastern green heron is quite bluish on its back and maroonish-brownish on its top and front. The neck is short for a heron and so are its bright yellow legs. Once they were probably numerous along every stream in our state. They are unheronlike in that they do not nest in colonies but are most secretive and solitary in these matters.

THE BLACK-CROWNED NIGHT HERON

Herons, as a group, usually appear emaciated, so this black-crowned night heron seems almost unlike the rest because of its chubbiness. It is slightly larger than the eastern green heron, and is a solid and substantial bird. When I acquired a wooded area for a camp, I discovered a roost of these herons at the far end, so I fenced it off. The herons do not nest there, but move in each summer after the nesting chores are over for the year. They are easily disturbed and take off in a rather owl-like fashion of flight and with angry squawks when one comes near. They travel to another roost about one-half mile north, but soon return, one by one, when the coast is clear. Oddly enough, the young when fishing, allows one to approach to within a few yards; then it rarely flies but stalks purposefully away. The plumage of the immature bird in no way resembles the India ink-black and white parent, for the young is brown with grey lines down the front and sides and with grey spots over the wings. Contrary to their name, the black-crowned night herons do considerable day fishing, often from limbs overhanging the water.

THE STAKE DRIVERS

Another relative, the American bittern. (Botaurus lentiginosus) seems less interesting because they are ground dwellers instead of tree perchers. They are found in dense marshy areas, wear autumnally-colored plumage that blends well with the surround-

continued on page 26
Fish "TO" - Not "FROM"

by Joe Pancoast

Editor's Note: This is the second of two articles written for The ANGLER by veteran Outdoor Writer Joe Pancoast before his death on October 9, 1972. The first, "Trout Fishing in the Mid-1800's" appeared in the April, 1973 issue.

Fish "TO" and Not "FROM"—is a recommendation worthy of anglers' consideration.

The idea came to me a pascal of years back. The day had become blistering hot. The sun's rays were so intense even Satan would have been uncomfortable.

Our fishing had started at first light in the surf along New Jersey's coast. Hours later we were several miles from our "flivver," a Model "T" Ford.

The separation was due to custom in those days. Surf fishermen then hunted for fish. Today, in most instances, that is not feasible due to presence of bathers during the now lengthy vacation period, plus legal restrictions, private holdings and similar blocks which tend to force surf casters into one general area except early and late in the season and at night.

Our outing was at mid-summer and, following the then acceptable practice of hunting for fish and finding some, we wound up far from our car.

The walk back became brutal. Treading in the sand while wearing heavy boots and gear in shoulder slung packs, plus a long, heavy surf rod and sturdy reel led to a rest break about half way on our return.

That brings up some need for some background. Our boots were of the full hip, service, or work type, which meant they were heavy and cumbersome.

The model was customary. Light weight editions were not to appear until years later and then costs were not for every man's pocketbook. And the "why" of the boots should be explained.

Unless one's bare feet were hardened to the abrasion of sand, fishing wet without foot protection was far from a good idea. And it wasn't practical to wear shoes of some sort such as many fresh water anglers do when fishing wet because surf waters carry sand. Once the particles get inside foot covering, and they
will unless barred by waterproof boots or waders, feet will soon become raw and painful.

Also, in those days, surf rods and reels had not been refined to current lightness. They were sturdy for sure, but weighty.

Finally, because it was the custom to walk up fish, it was necessary to lug along sundry items of tackle that might be needed. Toting was done in all manner of carriers, mostly of the pack basket and war surplus types.

Having removed ours from shoulders and sitting there in the boiling sun, the thought struck us, "Why not make the long walk before starting to fish instead of after hours of casting?"

Resuming our weary trek back, the idea kept bouncing around in our noggin. Thoughts of similar returns authored a resolution. In the future, the hike would be made first, then fishing would be done on the way back to our car of other headquarters.

On our very next trip to Pennsylvania trouting country the system was adopted, but not without calling up a deal of will power. The urge to start fishing pronto was great but finally stuffed back into the "later" file. The result was gratifying.

Since then, all our stream fishing and lake casting from shore has been "Back to" and not "From." Getting that walk over with at the start makes the fishing far more enjoyable even when the finny ones fail to cooperate. And the procedure is especially favorable when the weather isn't pleasant. The tired return hike is no longer part of our angling.

Instead, a starting point is selected away from our camp, car, or other headquarters, then the walk made to that point before our line is wetted.

This fisherman is well aware there are exceptions to all the angling "facts" that may be expounded. But he is willing to wager a fishhook against a split shot that fishing "Back To" instead of "From" will make most outings more enjoyable. The first couple of such procedures will call for a good deal of resolution because the temptation is great to start fishing RIGHT NOW! But, if stuffed away in a hip pocket, making the long walk first is an odds-on-favorite for a more pleasurable outing. Try it.

BOOK REVIEW

"Modern Fresh and Salt Water Fly Fishing"
by CHARLES F. WATERMAN

This authoritative, highly readable new book covers everything today's angler ought to know about almost every kind of fish that can be caught with a fly rod, from the little fresh water panfish, right up through such flats and offshore game fish as the bonefish, barracuda, and tarpon.

Waterman begins by reviewing basic fly-fishing principles, methods and equipment, but his book is far more than a review of orthodox tackle and techniques. It makes its strongest case in discussing newer, little-studied phases of fly fishing such as the fly-taking habits of many fresh and salt water sport fishes usually caught on cruder tackle, and the niceties of bug fishing.

Based on nearly half a century of fly fishing experience, "Modern Fresh and Salt Water Fly Fishing" combines a thorough, logical treatment of fly-fishing fundamentals with a wealth of fine points that will afford even veteran anglers much food for thought. Truly an essential book for all fly fishermen. 384 pages, 6 1/2 x 9 1/2, $8.95, illustrated. Order from your favorite book store or the publisher, Winchester Press, 460 Park Avenue, N.Y., N.Y. 10022 (Not available from Pa. Fish Commission)
Disappointed with your engine's performance?

Then “TRIM IT”
You’ll Like It!

by Don Parrish, Waterways Patrolman, Beaver County

Photo: Courtesy Evinrude Motors
Without the right prop and engine mount, the most expensive boat on the water will not perform “top notch.” To provide peak performance, a boat must be trimmed just right. Several factors come into play when trimming a boat, but prop selection and engine position are most important.

Fitting the family auto with tires is relatively simple. You just purchase the proper diameter tire to fit the wheel. What about choosing a prop for your motorboat?

To enable you to select the right prop, you must consider the application for which the prop is intended. General cruising, racing, or water skiing. First, it is necessary to have some insight into how a prop works and the various types which are available.

While a car engine transmits power to the differential to turn the wheels, a boat prop changes that energy into thrust. This thrust develops the push against the water to propel the boat.

What about propeller “pitch”? The pitch is the twist at which the prop is set with relationship to the direction of travel. That is, the distance the prop will travel in one full turn. For all purposes, a prop with a 20” pitch will travel 20” in one full revolution. Naturally, the greater the pitch, the greater the distance of forward travel.

Propeller thrust is determined by the pitch, the diameter, and the area of the blades. It stands to reason, a three-bladed prop will provide more thrust than a two-bladed one. Therefore, a three-bladed prop is best for most runabouts and cruisers. While on the other hand, two-bladed props are more suited for high speeds with a light load and are used on racing craft. Four-blade props are used on large, slow moving boats that require great thrust, but little speed.

The material make-up of a prop is an important consideration. Bronze props resist corrosion better than aluminum, except for gear case corrosion in salt water. However, an aluminum prop has the advantage of lightness and a cleaner bite which results in less drag, thus better utilization of horsepower and better fuel economy. Aluminum props can also be repaired as easily as bronze and are twice as strong.

After you have placed your selected prop on your engine, the problem of proper trim becomes apparent. The height of the transom is very important to insure proper thrust. Too high a transom creates cavitation which is an intake of too much air around the prop. This action could lead to slippage and ultimate damage to your engine. If the transom is too low, excessive drag, loss of both power and speed will occur. This problem is not evident with a stern drive prop.

Next you must consider the tilt of your engine. You should strive to center the engine on the transom and keep the drive shaft perpendicular to the water at full throttle. An engine tipped too close to the transom will cause your boat to plow with little power. This tilt will also make steering difficult by resulting in swerving to the right and hard steering to the left. The opposite of this effect will occur when the engine is tilted too far away from the transom. That is, swerving to the left and hard steering to the right. In addition, the bow will raise too high out of the water. With a properly mounted engine, your boat will plane nicely and permit maximum speed. Don’t forget the importance of distributing the load properly for best performance. Another important item often overlooked is the bottom of the boat hull. A clean hull will offer less resistance to the water and add a few miles per hour to speed.

Finally, to be certain you are receiving the best possible results from your engine and prop, invest in a tachometer. With a tach, you will know when your engine is delivering the rated horsepower for which it was designed. Then, “Trim it, you’ll like it!”

Top: Outboard is correctly installed with propeller thrust straight forward for maximum efficiency. Center and Bottom: Lower unit is too close or too far away from transom. The result will be erratic performance and poor handling. Courtesy Evinrude Motors.

Want to Make Friends?
The only way some of your pals will ever hear of the ANGLER is if you tell them about it. Better yet, send us $2.00, their name, address, and ZIPcode. We'll send them the ANGLER for twelve months and it will make you a friend for life.

JULY-1973
BOATING'S
A Many Splendored Thing

The mere mention of "boating" is usually enough stimulus to start one thinking of planning a cruise, tinkering with the engine, or getting busy with the upkeep of a boat rig, thinking of the many uses for our boats that we all hope to have more time to enjoy for this summer.

The sight of a boating picture or illustration will probably recall happy times upon the water. The experiences of unhappy times, that we all have, we tend to forget—and photographers tend to ignore them also.

Boat manufacturers in advertising their products often paint a picture of instant, carefree, and automatic pleasure on the waters during idle hours.

In reality, however, probably no other recreational sport challenges the knowledge of the participant than boating. In fact, many things within the scope of pleasure boating knowledge are demanded to insure an enjoyable and safe outing.

His lack of basic knowledge becomes apparent to the beginner the first time he backs down a ramp and finds the trailer goes in the opposite direction of the car; the first time he bangs the boat's stern into the dock when turning away from it; and the first time he needs to stop forward motion and realizes he has no brakes.

Actually, in order to enjoy and survive the "first season" the beginning boarman must have a good idea of trailering, launching and operating the boat, its equipment, and how to prevent—or act with fast and good judgement in an emergency.

Failing to get basic education in advance is no doubt the reason of so many blunders and the "For Sale" signs which appear within the first year.

The happy boarman will be the boarman that takes some time to read about boats and boating. He will take a few minutes to send for the free educational pamphlets that are available from the Pennsylvania Fish Commission. And a happy boarman will take one of the free safe boating courses sponsored by the Coast Guard Auxiliary, the Power Squadron, or the Pennsylvania Fish Commission.

The above three basic recommendations will expose all boatmen to what it takes to become Safe Boatem, and if he heeds them, he will then stand an excellent chance of surviving without mishap, collision, property damage, sinking, going aground, or at the very least, general confusion and irritation to himself and other boatem.

Regardless of a man's academic schooling, if he enjoys boating, he'll broaden his knowledge with the first step aboard a boat. His education will continue, sometimes quite unknowingly, into many different fields.

A boating family will see things that can only be seen from a boat while on the water. The effects of "natural" changes to our ecology, ice damage to marsh plants, siltation, erosion, etc. Also what some selfish men continue to allow: the filling of low marsh land, industrial and municipal dumping of waste into the water, "straightening" a channel with the resulting loss of fish and wildlife homes, drastic bank erosion, and the filling of low areas with the dredged material.

At the wheel of a boat, he'll learn to "see" instead of just looking. Once a "tree," a "bug," or a "fish," was called by its common name, but in time, our new boater might even learn their scientific names, their life cycles, and other facts that define a place and a purpose for each living thing in our environment.

Our boarman should be constant-
ly aware of the Geography of his boating area, while learning Geology, the study of our earth—the history of its formation. He'll learn not only the characteristics of the land surrounding the water in which he'll be boating, but also the water itself. The currents, where and why there are sand or gravel bars, why the bottom is mud in one area and sand or maybe rock in another. In an unknown and uncharted river, he'll also learn on which side of a creek the channel runs, and why.

Botany is the study of plants and Zoology, the study of animals. No connection with boating you say? If you're a duck hunter, being able to identify the food preferences of waterfowl and marsh birds will help increase your bag. A deer drinking by the shore at dusk, a groundhog scooting into a burrow in the river bank, or a squirrel's loud chatter as he tells you from a high branch over the water that you are intruding on his territory; all these, and more can be seen from a boat. Animals are not as afraid of a quietly drifting boat as they are of a person walking along the bank.

Having one of the kids ask "what kind of bird is that?" will kindle an interest in Ornithology, the study of birds. A "bug" walking on top of the water, a beautiful orange butterfly, fluttering overhead, the swarming of a new hatch and the perils they're faced with instantly. Which are insects, which aren't? Entomology will isolate the insects and I'm sure will surprise our boater and his family.

Anchored or quietly drifting, the boater might see one of our reptiles—or amphibians swimming along the surface of the water and although knowing which snake is poisonous and which isn't is valuable information, most people would rather steer clear of them and Herpetology.

Archaeology—sometimes mistakenly thought to include only "ancient" discoveries such as the tombs in distant Egypt, can be pursued along most waterways. The American Indians used the creeks, rivers and lakes for transportation, hunted the shores, fished the waters, and camped along the banks. Present day boaters can do much the same thing, and a lot easier with the equipment that is available today. Man-made objects (artifacts) such as arrowheads, ax heads, etc., can be found along just about any waterway in Pennsylvania with some searching. (Respect private property and ask permission first).

Regardless of what you see along the waterways, you'll want to record it on film. Photography will be an education or hobby in itself. Too much light—not enough, fast shutter speed or large aperture; back-light, side-light, shooting into the sun, across the water, sun-shields; filters and compensating factors—I guess it's all work, but like boating, it's fun too.

Meteorology will explain winds, cloud formation, weather fronts, fog and indirectly, even fishing forecasts. All are important to boating.

Any interest in aquatic plants or animals, shellfish, waterfowl, rocks, or a hundred other natural subjects will further stimulate your interest and eventually your knowledge of why things are the way they are.

Hopefully, an interest will be sparked to arouse you to support both government and private conservation efforts to help stop the selfish forces at work that are destroying all that you will learn to love, identify, and understand.
In Case You Flip...

Here's A Tip

courtesy Evinrude News Bureau

If your boat swamps or capsizes, stay with it, reminds the boating experts at Evinrude. Flotation is inherent in a boat built of wood. Most boats built of fiberglass or aluminum have water tight compartments to keep them afloat, or built-in flotation materials. If you flip or tip, it is much safer to keep your boat afloat until help arrives than it is to attempt to swim for shore.

And, if you attempt to assist a capsized boatman, steer clear and heave a floatable object with line attached to the victim, as demonstrated at left. Photo courtesy Evinrude Motors.

AFTER A SHOWER

Excessive rain or frequent storms often cause a rapid rise in the level of a river and even in some lakes. When this happens there is usually an increase in floating debris picked up from the water's edge.

When running a river that has risen due to rain or through release of water from an upriver dam, keep an eye on the water for partially submerged objects. It's always a good idea to scan the water ahead of your craft, but especially so after heavy rains. Submerged objects that float just beneath the surface can be very damaging to boat or motor.

WESTERN PENNSYLVANIA CONSERVANCY
Makes Major Acquisition
In Allegheny River Project

Western Pennsylvania Conservancy has announced a significant acquisition of scenic river frontage along the upper Allegheny in Warren County.

Purchased from Miami Oil Producers, Inc., Abilene, Texas, the 1,267-acre tract contains over 1.5 miles of steep hillside with several promontories overlooking the Allegheny River.

The tract is located in Tidioute Boro and Triumph Township and is bisected by Pa. Route 127. A large portion of the land is heavily forested with typical northern hardwoods.

“This acquisition is a major step in the Conservancy's continuing program to preserve significant shoreline areas and islands of the Allegheny River,” commented John C. Oliver III, Director of Land Operations. “The promontories atop the near-vertical 1,600-foot banks offer a spectacular view of the river in both directions,” he said.

Western Pennsylvania Conservancy unveiled plans for its Allegheny River Project last winter. Based on an extensive study, it will be carried out along the river's entire length through two programs:

- acquisition of more safe river access sites, with parking and launch ramp facilities,
- acquisition of camping or stopover sites along the river for extended boat or camp trips.

Having already acquired some islands and shoreline property for the project, the Conservancy will assist the Pennsylvania Fish Commission in planning a river boat “trail.”

Two types of sites are being considered for camping and stopover areas along the “trail.” Those designated for canoeists and boaters only will have the usual camping facilities, such as water and comfort stations. Road access will be confined to service vehicles.

Other sites will be accessible only from the river and will provide the user with a true wilderness river camping experience. No camping facilities will be available at these sites.

JULY-1973
Like thousands of others that evening, I couldn't believe what I was reading. In bold, black headlines my paper screamed out the news—TOTS LICENSING BILL PASSED.

Under a Washington dateline the details of the story unfolded. Concerned with approximately 700,000 toy-related injuries each year and an annual toy-related death toll of about 1,900, Congress completed passage of a bill requiring the licensing of children before they could legally play with toys.

Passage of the legislation had been opposed by parent-teacher organizations and other child oriented groups. Volumes of testimony had been taken at committee hearings in the nation's capital and at key points throughout the country.

Witness after witness had testified that you can't legislate common sense. Experts in the field pointed out that more effective and intensive education and strict enforcement of existing safety laws and regulations could bring about a dramatic reduction in the number of injuries and fatalities.

At just about this point in my reading of the article, my alarm sounded and I awakened! What had triggered the impossible dream I had been in the midst of? Why had the arguments of the opponents of the Tot Licensing Bill seemed so familiar? All at once the background fell into place.

Prior to going to sleep I had read a Congressman's annual address on National Safe Boating Week in the Congressional record. As usual, he referred to the bill he introduced back in 1962, and has reintroduced in each session of Congress since. This bill would require the licensing of motorboat operators.

Again, as usual, he dwelled on the accident and fatality record in pleasure boat operation. It must have been the fact that so many more people died or were injured in toy-related accidents than in boating accidents that generated the fantasy that was my dream.

I had been doing some research for this article and numbers were fresh in my mind. There were numbers that the good Congressman seemed to ignore.

If he based his 1962 bill on the statistics for 1961, here's what we find: In 1961, the boating industry estimates show that approximately 7,175,000 recreational boats were in use. In 1972 that figure had jumped to 9,210,000!

Before working with more figures, I must confess that we're comparing apples with oranges. In 1961, many states, including Pennsylvania, did not have Coast Guard approved motorboat numbering systems. Now, only three states, the District of Columbia, and Guam, do not have such systems.

As a result of more states providing more uniform input, and a decided upgrading of reporting procedures, a dramatic increase in accident, injury and fatality figures should have occurred between 1961 and 1972. This was not the case.

In 1961 there were 3,179 reported accidents involving 4,095 boats. In 1972 there were 3,942 reported boating accidents involving 5,044 vessels. In 1961 there were 1,101 fatalities and 1,088 injuries—compared with 1,437 fatalities and 829 injuries in 1972.

The Coast Guard tabulation for fatalities in 1972 has been the subject of much controversy. It far exceeds the total reported by the combined figures of the individual states. So much for the deep-end of the motorboat operator licensing controversy, now let's examine the common sense aspects.

Will licensing improve the boating safety record? The National Transportation Safety Board's "STUDY OF RECREATIONAL BOATING SAFETY PROGRAMS AND PREVENTATIVE RECOMMENDATIONS" seems to answer that. Let me quote, "For 1967, based on best estimates, the number of fatalities per 100,000 vehicles, planes and boats is listed:

- Motor Vehicles . . . . 53.0
- Motorcycles . . . . . 94.0
- General Aviation . . . . 913.0
- Recreational Boats . . 16.4

As you look at those figures, keep in mind the one important thing—only the operators of the recreational boats are not required to be licensed.

Looking at it another way, proponents of operator licensing have suggested licensing programs which include a physical examination, a test of knowledge of rules of the road and on-the-water tests of operating ability.

In Japan there's a proposal for 13 weeks of lecture courses and a four hour on-the-water test—net cost just under $150.
Whether the licensing of boat operators would make boating a safer recreation is a question pondered nationwide. Our writers don't think so!

With almost nine million recreational boats in use in this country, and figuring two operators per boat, this would involve so much manpower to test the operators that our corps of unemployed would vanish. Just imagine the chaos in the Great Lakes area of Pennsylvania (Erie) where all the in-the-water examinations would have to be done in a very short boating season.

Looking at the situation from the bureaucracy that could be established is also frightening. Because of the competitive spirit that exists in federal agencies, the group administering boating would have to be equal to the FAA (Federal Aviation Administration). This would mean one employee for every three boats.

Another consideration is the scope of the test to be administered. In view of the "gypsy" nature of today's boating enthusiast, there's the possibility of his boating in a different body of water each weekend.

Would a license granted on the basis of operating a Jon boat equipped with a 3 h.p. motor, on an inland lake, qualify the holder to operate a ski tow boat, a high powered outboard boat, a houseboat, an auxiliary sailboat, or a $100,000 cabin cruiser?

Or, will a license granted because of the ability to handle a boat demonstrated on an inland lake where there are no tides or currents, where locks aren't encountered, where aids to navigation aren't encountered, and where you're never out of sight of land—will that license qualify you to operate on a tidal river, Lake Erie, Barnegat or Chesapeake Bay, through hazardous inlets, or on the ocean?

I'd like to have you bear with me as we examine some more figures from the Coast Guard's "Boating Statistics 1972." Of the 1,437 fatalities reported for 1972, the horsepower of the boat was unknown in 810 of the cases and no engine was involved in 396 of the deaths.

In view of these statistics wouldn't it be proper to suggest that, if licensing is adopted, it extend to operators of kayaks, canoes, etc.

Obviously, operator licensing is not the logical answer to improving boating safety. It has been proved time and again that you can't legislate common sense. Our goal, as the proper path to boating safety, should be a strong emphasis on BOATING SAFETY EDUCATION.

There is a middle-ground solution many states have adopted. It takes the form of certification of young operators of recreational power boats.

Adoption of such a requirement would mean that within 10 years a large percentage of the operators of motorboats would have completed a boating safety course. In the interim, heaven help any adult who errs in the operation of his craft when his son, the accredited skipper, is aboard.

**COMMENTS BY**

**CAPT. C. E. LEISING, DIRECTOR, BUREAU OF WATERWAYS**

The author need not suggest extending the requirement for licensing to operators of kayaks and canoes because that has already been thought of—and would include rowboats and sailboats. Under the plan that has been discussed you could not even rent a boat without your license.

While the idea of "certification" or "licensing" of young operators (you pick the age limit) seems to be an attractive, simple alternative, we don't agree it'd be effective. Our problems are not with that age group—it is the man in the 30-45 year group who may have just bought his first boat. How would he have received his education? Not as a teenager riding with an adult supervisor. And what is an "adult" and how has he become qualified to supervise anyone?

No, the answer seems very clear that EDUCATING the operator to the dangers as well as the joys of boating is the only way to go.

We have been happy to see developing what we had predicted would happen—a large majority of those completing Pennsylvania's Pleasure Boating Course have indicated a desire to take a more advanced course.
From L. M., McKeesport:

"Is it possible to have dry-rot in a fiberglass boat?"

—Not only possible, but unfortunately a fairly common ailment. Nearly all fiberglass hulls contain at least some wood framing, with the larger boats employing more of the natural material. Water eventually finds its way to this wood, and sooner or later soaks in. While a wood boat will dry out fairly well in storage, the much denser plastic hulls trap this moisture, hastening the process of rotting. Because of the inaccessibility of the wood members inside a fiberglass hull, a successful repair is quite costly at best, and in many cases impossible. Buyers of used fiberglass boats should be especially careful to see that any wood framing inside the hull is in good condition. On many boats, this can be quite difficult, since the frames may be totally inaccessible, except by drilling through molded interior shells or sole panels. In the case of a larger boat—say any craft over 18 feet in length—which is more than five years old, it would be cheap insurance to retain a good marine surveyor to inspect it thoroughly.

From W. R. H., Bentleyville:

"What is the easiest way to adjust a boat compass?"

—The best way is to employ a professional compass adjuster, but unless you have unusual problems on your boat, try this method: Find a place where you can wade comfortably and still float the boat. Have a couple of friends hold the boat still, while another stands in front of the bow with a pocket compass. If the friend is careful not to have any iron buttons on his swim suit, the pocket compass will be perfectly accurate. By moving the boat around in the water and adjusting the compensating screws on the boat compass, you should be able to take out all or most of the error.

From V. S., Allentown:

"Could you explain the good and bad points of the various types of inboard engine and drive installations?"

—This is a large subject, but there are some general considerations that apply to just about any boat. The straight-shaft installation is just what the name implies: the engine, reverse gear, shaft and propeller are arranged in a straight line, inclined at about 15 degrees to the keel. This is the simplest and cheapest type of inboard rig, and is reasonably efficient if the choice of shaft speed and propeller is right for the hull. The propeller, rudder, shaft and strut are under the boat, exposed to damage from grounding, and are expensive to repair. Steering is good going ahead, but on single-engine boats, the handling is from poor to impossible when backing down. The vee-drive system is almost identical to the straight shaft, except that the engine is turned around with its output shaft running forward. A gearbox called a Vee-Drive is installed forward of the engine, and the propeller shaft runs from the lower part of the drive, beneath the engine, and out through the hull. This setup permits the engine to be installed further aft in the hull, but adds a considerable amount to the cost. There is also some loss of power in the effort used to turn the gears in the vee-drive, and the whole mess is rather difficult to keep in proper alignment. The inboard-outboard, also called I/O or sterndrive, consists of a typical inboard engine set just inside the transom, connected to what amounts to the lower unit of a big outboard motor hung on the stern. Depending upon the horsepower, there may or may not be a reverse gear or clutch in between. This arrangement offers a number of strong advantages, including a horizontal engine installation for better cooling and lubrication, excellent steering either ahead or astern, ideal propeller efficiency since the wheel axis is parallel with the keel, and the protection of having the unit kick up just like an outboard when run over a submerged object, usually with little damage. The I/O is considerably more expensive than a straight shaft rig, and the drive unit can be very costly to repair if severely damaged or allowed to run without proper lubrication. On the balance, however, for any but very large and heavy boats, the I/O's good points outweigh its shortcomings, and its large and increasing popularity is well deserved. The final type of inboard installation is the jet drive, which is simply a large, high-pressure pump turned by the engine. There is nothing under the hull to be damaged if the boat runs aground, but this is the only advantage in this system. The jet boats are very inefficient at low speeds, difficult to handle and maneuver at less than planing speed, and prone to suck up odd pieces of rope and other garbage into the pump.

From R. J. R., King of Prussia:

"My 14-foot fiberglass boat was built in 1963 and is rated for a 30 horsepower motor. Since outboards have been getting lighter, could I use a modern engine of equal weight but higher horsepower?"

—Horsepower ratings are determined by a rather complex formula that takes into account the dimensions of the boat, height of the transom, and other factors. Since 1963, the formula has been revised several times, each time reducing the permissible power for a given hull. This is because the manufacturers have learned that additional allowances must be made to protect the ignorant or reckless operator who otherwise might capsize the boat with an excessive maneuver. To answer your question, you could request a new capacity plate for your boat, but it is entirely possible that the horsepower limit, when calculated by the current formula, would be less than the 30 you are now allowed.
IN THE NAME AND BY AUTHORITY OF THE

Commonwealth of Pennsylvania

Governor's Office

HARRISBURG, PA.

PROCLAMATION

PENNSYLVANIA SAFE BOATING WEEK—JULY 1-7, 1973

As summer approaches, over one million Pennsylvanians will take to the beautiful lakes, rivers, streams, and tidal waters of the Commonwealth to seek the pleasures of boating. They will come from city and farm, in cruisers, runabouts, rowboats, canoes, sailboats and rafts, to enjoy this exhilarating outdoor activity.

Last year, Pennsylvania suffered the highest boating fatality rate in our history. Some of these deaths can be directly attributed to Hurricane Agnes and the high waters that followed, but most all could have been prevented had the operator exercised a little more caution and respect for his water environment.

Recognizing that the greatest number of fatalities occur in small rowboats, canoes, and rafts, the Pennsylvania Fish Commission, Bureau of Waterways, has recently re-directed its educational program to meet the needs of these water sports. The Coast Guard Auxiliary and the United States Power Squadrons, our two foremost voluntary educational organizations, have also directed their efforts toward the small boater, and the American Red Cross is continuing its very active camp programs in small craft safety. The Safe Boating Councils and the Water Rescue Squads are also deeply committed to Boating Safety.

Therefore, I, Milton J. Shapp, Governor of the Commonwealth of Pennsylvania, do hereby proclaim the week beginning July 1, 1973, as SAFE BOATING WEEK in Pennsylvania, and I strongly urge our boating citizens to use caution and common sense, to learn more about their water environment, and to leave our waters free of litter so that they may be enjoyed by those who come in our wake.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-seventh day of June, in the year of our Lord one thousand nine hundred and seventy-three, and of the Commonwealth the one hundred and ninety-seventh.

MILTON J. SHAPP
Governor

BY THE GOVERNOR:

Secretary of the Commonwealth

JULY-1973
"OUT-OF-STATE"

On the second day of the 1973 trout season an "Out Of Stater" was caught. Where was he caught? At the base of the Kinzua Reservoir in Warren County. What was he doing here? He was probably visiting some of his Pennsylvania cousins. His description: 13½ inches long, brown in color, with red and yellow spots, and a hooked jaw. Where did he come from? He came from the state of New York—a place called Fenton Brook, in Cattaraugus County. The creek is a tributary to the Allegheny River, which is about 50 miles from where he was released. He was 8 inches at stocking, and was stocked on April 14, 1972. His name was Mr. Salmo trutta, alias Mr. Brown Trout. The angler who caught him was Mr. Robert Soblinsky of New Kensington, Penna. The moral of this story is: You anglers who travel 50 miles to fish and say that 50 miles is a "long way," just try swimming that far and then ending up in the Pan!

G. L. Greiner
SWP (Westmoreland Co.)

BEST FISHING SPOT

On the opening day of the Trout season my wife had a normal telephone request: the dates and time for the in-season stocking. The caller, a "fishing widow," claimed that her husband was successful only on the days the fish were stocked. Jokingly, she said she was going to request special permission for her husband. That was, to angle in one of the truck's compartments, so he would be happy this trout season!

Frank Schilling
WWP (Philadelphia Co.)

SMELT GALORE—

The smelt run in the feeder streams was the largest in a number of years. The smelt showed up in Walnut Creek and Trout Run on the night of April 15th and ran heavy in all the streams till April 21st. A number of TONS of smelt were taken during this period.

Norman E. Ely
WWP (Lake Erie Co.)

HOLY CATS!

At a recent sportsmen's meeting in Powder Valley, at which SWP Stanley Long was giving a fishing report, one gentleman left early and quietly out the side door. It wasn't long before a piercing screeching and hol­lering was heard coming from the outside of the clubhouse. Thinking that some kind of catastrophe had befallen the man who had left, the noise was soon investigated by all present. They found the fellow outside of his car, peering under the hood, a little shook up, but otherwise OK. The same wasn't true, however, for the unfortunate cat that apparently had been sitting on the fan of the man's car as he attempted to start it!

Frederick Mussel
WWP (Lehigh Co.)

"GREAT WHITE FLEET"?

Without sportmen assisting, stocking fish would really be time-consuming. We need and appreciate their time and help. However, during the pre-season stocking some over­enthusiastic anglers followed a white garbage truck from Ligonier to New Florence—thinking it was one of the stocking trucks of our "Great White Fleet"!

Arthur A. Herman
WWP (Westmoreland Co.)

94 YEARS YOUNG!

The opening of the Trout Season for 1973 saw many fishermen in Clarion County, but the fish just weren't co-operating as water temperatures were averaging 36 degrees at the opening hour. These hardy folks who arrived at the streams the night before, or early in the morning, saw some thin ice on the pools as the air temperature was 15 degrees at 6:00 AM. Most people were cooperative, very few cases of littering or other types of violations were noted. In fact, many came away from the streams with extra trash they had found and picked up. The thing that made my day was when I was requested to check an elderly gentleman's license by his associates, and in doing so found out that he was 94 years old and had never been checked before! He also told me that he could not wait until the 1974 season so that once again he could have a button to wear, as he thought that the Commission should never have stopped them at all in the first place!

Robert J. Cortez
WWP (Clarion Co.)

DUTY CALLS!

At 1:00 AM, April 14, the opening of Trout Season, Special Waterways Patrolman Al Milford was preparing to go out on stream patrol, when the "Steel Valley Rescue Squad," which Deputy Milford is a member, was summoned.

A 7 year old Port Vue, Pa. girl, Connie Whoolery, was lost. Needless to say, over 120 volunteers, many local Anglers, Police, Firemen, as well as the rescue squad, were out searching for Connie, and missed the opening hour at their favorite Trout Stream.

Connie was found in the early morning hours sitting on a porch several blocks from home, very cold.

James Smith
WWP (Allegheny Co.)

"PLEASE DON'T LITTER!"

Special Waterways Patrolman John Patterson apprehended a man throwing her beer cans along the shore of a district lake. This man stated that he didn't mind paying the fine but hoped his name wouldn't be released. His job was stamping the "Please Don't Litter" labels on beer cans!

Anthony Murawski
Assistant Supervisor (Region II)

A FINE WAY TO "NEEDLE" A FRIEND!

While in the process of writing an Angler subscription, the question was raised as to the reason for a Doctor being sent an Angler as a token of appreciation. The reason was "needle-work," or for an exceptionally fine piece of "stitching." The patient upon viewing the artistic work commented to the Doctor that, with an ability for fine work as he had just performed, he must tie flies as a hobby. The Doctor replied that he did tie flies and that the only problem he had was finding new information on this subject. Result: one patient sending her doctor a subscription for the ANGLER as a token of appreciation for a job well done!

Frank Schilling
WWP (Philadelphia Co.)
SOME "CAPACITY!"

SWP Robert Kopia had taken some slide photos of the new Federal Capacity Plates and Hull ID numbers on some of the boats at the 1973 Pittsburgh Boat Show at the Civic Arena. He had his wife Pat pick up the slides at the Photo Shop. When he came home from work she put him in the Dog House. Two of the slides had "36-24-36" figures on them, and they weren't "Capacity Plates"!

Gerald T. Crayton
WWP (Allegheny Co.)

ONE NEEDS TUTORING!

The extremes of fishermen's success were evident from the opening day remarks of two fishermen fishing the same stretch of water on the West Branch Clarion River. One told me that he, "never caught a fish!" The other remarked, "I caught and released 58 trout on opening day!"

Bernard D. Ambrose
WWP (Elk Co.)

COOPERATION!

The picture was taken on the So. Br. Tunkhannock creek. This creek, or rather portion of the creek, was closed to fishing in 1972 because of littering. But not by fishermen, but by people using the area for a "Lover's Lane," swimming, shooting needles, what have you. We by-passed the area while stocking the creek. I had some litter bags in my trunk and, because the area looked so unsightly, I asked the fishermen who were along to help police the area. Even though they knew they were not allowed to fish here, they didn't hesitate a minute. All grabbed a bag and had the area policed in a matter of minutes. The pickup truck belonged to a fisherman from Scranton, who didn't want to give me his name as he said, "I'm not looking for publicity, I just wanted to help out."

Stephen A. Shabbick
WWP (Wyoming Co.)

ULTRA LIGHT SCORES—

Darrell Zalenski landed a 213/4" rainbow trout in the tailrace of Stevenson Dam the opening day of the season on an ultra light spinning outfit. I guess, from the talk around the tailrace, Darrell had quite a fight on his hands. He was mighty proud of the fish, and the fight as well.

Stanley G. Hastings
WWP (Cameron Co.)

GREAT TRY, WALT!

Walt Casciato, of West Mayfield, and Bill Buckley, from Beaver Falls, were jig fishing in Pymatuning Reservoir when Walt had a tremendous "strike." Frantically, Mr. Buckley retrieved his line so he could grab the net and take part in landing the huge fish that was obviously putting up quite a battle. Eagerly the two fishermen waited as the fish struggled for freedom. The rod thumped and bounced while the line strained to hold the unknown prize captive. Then, suddenly, there it was—a metal garbage can lid hooked neatly through the handle!

Don Parrish
WWP (Beaver Co.)

LITTLE HELPERS—

Wish to take this opportunity to thank all the third grade students of Cochran School in Williamsport for helping me stock Little Pine Dam. A special "thanks" for all the nice letters I received from them.

James H. Lauer
WWP (Lycoming Co.)

"THANK YOU"

The second and third grade students of the McVeytown Elementary School had a "field trip" to observe trout stocking this Spring. Their teachers, Mrs. Dawn Fields and Mrs. Rebecca Burns, along with some parents, accompanied the children. They were obviously very interested and quite impressed with the entire situation. Several days later, it was my turn to be impressed. I received in the mail a small bucket (made of construction paper) containing a lovely "catch." Each child had cut out a fish, written a "Thank You" on it, and signed his name. These were then taped onto a long piece of yarn. Needless to say, this is one "stringer" that I will proudly display for a long time.

James T. Volante
WWP (Huntingdon Co.)

NEW ACCESS

The United States National Park Service has acquired a boat launch and bathing beach near Milford, Pa. The area, formerly known as Bob's Beach, will carry no admission charge and began operation on April 14th. Adequate parking space and picnic grounds will be available. A Ranger Station is located on the premises where both lifeguards and Park Ranger personnel will offer information and assistance to visitors.

Numerous programs, some of which will be given by the Pennsylvania Fish Commission, will be scheduled throughout the summer season. These will include canoe handling, water safety for beginners, and fishing methods.

Patrice O'Neal
WWP (Wayne Co.)

HOW LONG?

Our streams were in good condition last spring and many fine comments were received about the nice trout the Commission was stocking. There are many new holes and some old ones filled in but I think this is going to be a good year for fishing. Many anglers are wondering how long it will be before insect life is again abundant in the streams after "Agnes" scoured them. Estimates are running as high as five years, but I hope it is not this long!

Raymond Hoover
WWP (Tioga Co.)

PATIENCE PAID!

John Ratchford, from Altoona, retired after twenty years in the armed forces. Since then he has fishes almost every day. He started by soaking nightcrawlers along the banks at the Point Access Area and "hoping" something would come along and bite.

He later changed his style after watching some musky fishermen in action. He would cast large plugs hour after hour. John had some action in the way of follows, short strikes, and lost fish. This did not satisfy John since I had heard him many times wish for one big enough for the "HUSKY MUSKY CLUB."

John's luck changed on the last day of the season in March. On this date he caught and landed a beautiful 41", 22 lb. musky—a fine fish caught by a fine and deserving fellow.

James T. Volante
WWP (Huntingdon Co.)
Mostly About Herons
continued from page 11

ings, and by remaining motionless . . . bill pointed skyward . . . are apt to go undetected. As a boy, I thought their eyes held the meanest look of any bird I knew!

The birds are most noisy during the mating season; early in the morning and late at night, the swamp may resound to their clamor that sounds like someone energetically trying to get water over a cistern using an old-fashioned rusty, chain pump. Their nuptial “music” has caused them to be given rustic names like “stake driver” and others, less printable. But again, in regions where years ago I saw many butterflies, today it is unusual to catch sight of a single bird.

The Little Blue Heron (Florida caerulea)

When one thinks of a heron-shaped bird, he is apt to recall the silhouettes of the great blue heron or the egrets. The small species of this group have shorter necks and legs, are generally more squatty. The little blue heron, small as it is, has the typical heron shape. As adults, they are slaty-blue with head and neck maroonish, with legs dark in color. The immature bird in no way resembles the parent in color . . . it is snow white with blush wing tips and chartreuse legs. At this stage it recalls the appearance of the immature black crowned night heron . . . neither resemble

in the slightest the coloration of the old birds.

The little blues are largely tropical but they nest in Virginia and even into New Jersey. Then like other herons when nesting is over, they go gallivanting in all directions, often being found in August and September about Lake Erie and on up into New England.

On Sarcophagus, In Pyramid

Herons have long been considered worthy of note, even of worship. Papyri from Egyptian tombs that date back into B.C. history show herons artfully drawn or painted as creatures to be revered or worshipped. They were and still are favorite subjects for the Asiatic artist for decoration on many a screen or jar or fan. Years ago, the Pennsylvania Angler paid tribute to the great blue heron in a verse titled:

The Greatest Angler of All
Aloof in some odd, shipwreck tree
You perch when day is done;
You drag a lazy sail across
A slumbrous sky at noon;
At dawn an inky silhouette
Against a half-up sun;
At eve a figure etched against
The silver of the moon.
Dowager empress, Or arrogant queen,
Image that stalked from some Old Chinese screen.

THE ANGLER’S NOTEBOOK

by Richard F. Williamson

Fishing a stream pool, do not wade up through the shallower section and make the first cast to the head of the pool. Begin fishing slightly below the pool, even in the riffle at its tail, and work the water carefully and delicately as you move up toward the head. Sometimes trout are in the shallow tails of pools, and often they are in the middle of a pool if there is cover and a bit of current.

Nymphs are all-season lures for trout, because some species of natural nymphs are in the water all during the spring and summer.

Bassbug anglers agree that the most effective colors in these lures are brown, gray, or black. This is because the mice, frogs, and big insects that they represent are dark in color. But plenty of nice bass have been caught on green, yellow, or even white bass bugs. It pays to have a good variety of colors.

Tags on new bass plugs, or instructions printed on the box, are “must” reading matter. Every plug is designed to produce some particular kind of action. You can’t expect to catch fish with it unless you know what this action is and how to “bring it out” in retrieving the lure.

For pickerel fishing with bait, a sharp, long-shanked hook with a wire snell is tops.

Sparsely tied, all-black bucktails with silver tinsel bodies are attractive to brown and rainbow trout. The hair from a skunk tail is recommended. It should be tied a little long, so that it wriggles.

No fly ever caught a trout in the air. So fish out every cast that you make. Let the dry fly float as far as it will without serious dragging. Keep a sunk-en fly moving until virtually all of the line has been retrieved.

Walleyes are school fish. If one is caught in a certain spot, others are almost certain to be there.

Bass make their homes in pools—but they also frequently feed in the deeper riffles of a stream or river.

Brightly colored lures are easiest seen by anglers, but lures which are even jet black are seen perfectly by fish, even during the darkest hours of the night. Try a black fly for trout and a black lure for bass the next time brightly colored lures do not produce results.

A hot spot for bass angling with a fly and spinner is that point where a brawling riffle flattens out to form the head of a pool. A good technique is to cast into the quiet water and work the lure upstream into the edge of the riffle, making it appear to be a minnow venturing close to fast water to feed.

PENNSYLVANIA ANGLER
The Worm Has Turned
continued from page 7

ed another fifteen inch beauty. Worms are, indeed, very potent medicine for trout.

But, the fishing scene is changing in Pennsylvania. Everyday we see more and more man-made lakes and impoundments springing up and furnishing an increasing amount of water for fishing and other recreation. These man-made fishing holes are fast making Pennsylvania a State well known, not only for its trout fishing, but for its warm water fishing as well. In fact, I feel we are well along the way to the point where the trout will no longer be "king" in Pennsylvania's waters. Record bass, musky, walleye and pike are being taken in greater numbers each year and our old friend the worm is working overtime.

The worm however has also changed. Now, instead of picking him up from a wet lawn at night, we buy them in packets at our local tackle stores. They come in a variety of sizes, and the most "Mod" colors, such as passionate purple, booze brown, lewd lilac, and bawdy blue, just to name a few. These soft plastic or rubber worms have been around for some twenty years, and according to one of the largest manufacturers of these lures their popularity is growing every year. Color preference on a national scale, as reported by the same manufacturer, shows purple in first place, with blue a close second, black third and natural brown fourth. Would you believe plastic worms that are scented to make them smell like the real worm? Sale of the worms each year runs literally into the millions. Their popularity is easily understood—just watch the local and national fishing contests and you will see the plastic worm far up the list of top lures.

There are different rigs and methods of fishing this lure, but generally it is fished much like its live counterpart.

My first experience with the plastic worm goes back some eight or nine years ago and occurred in Canada while fishing for largemouth bass. A friend and I had fished a lake for almost two days with no success. We both had overly full tackle boxes and each of us had washed every spoon and plug we had to no avail. The weather had been hot and muggy and we both reasoned that the bass were far back in the weeds that flourished in this lake. How to get them, was another question. The evening of the second day found us far back in a weed-choked bay and I was searching through my tackle box wondering what to try next. I spied a pack with four purple worms in it that I had apparently picked up during a weak moment in some tackle shop. Desperation at times has been known to work wonders, and I was ready to try anything. Without my partner's knowledge, I impaled one of the six inch purple worms on a weedless hook and tossed it into an opening in the weeds some twenty feet away. Before the worm had sunk five feet I saw the line move slowly through the guides. Punching the free spool button, I let the fish move off about twenty feet before I set the hook. I was fast to a bass that immediately buried itself deep in the weeds on the bottom of the lake. After considerable pumping and reeling we netted a four pound largemouth along with a netful of debris. The look of disbelief on my partner's face was enough to tell me that he was thinking much the same as I was—just a fluke, one of those unexplained happenings that sometime occur while fishing. Getting back into action, I dropped the worm into another opening in the weeds and before I could fill my pipe I was into another bass. At this stage of the proceedings, I became aware of some strong language coming from the stern of the boat, some dire threats as to what would happen to me if I didn't provide a certain person with one of those crazy purple worms. We returned to the dock at dark with five bass weighing from two pounds to a 4½ pounder that my partner had caught on his first try with a plastic worm.

Since that day, my tackle box has always been amply supplied with worms of all colors. For perch and other panfish I have used the plastic red worm with great success, but don't let size fool you, they also have accounted for some big fish. A few of the advantages the man-made worm has over the natural worm are: no mess, no problem keeping them, far more hardy on the hook, and they are always readily available.

With all of their fish-getting abilities however, I just can't bring myself to try and fool an old hook-jawed brownie into thinking that a passionate purple worm is something to eat.

On the rare occasions today when I go worming for trout I use the natural worm. Maybe some day, when circumstances demand drastic action to lure old "Salmo trutta," I'll try to cross him up with one of those fabulous plastic worms.
PART IV: HOW TO PREVENT

The major tasks have been finished—site approval, intake system and raceway, and proper diet—all established. However, there are some “ounces of prevention” to round out the project of a successful cooperative nursery.

For example, proper screening makes a worthy and necessary addition to any raceway. If a club is in the process of constructing its nursery, screening for predator and debris control should be built into the initial package.

Materials and construction problems vary with the size and shape of the nursery. Wooden frames and wire mesh fill the basic needs. Hinges, locks, supports, metal framing, and painting may be added for practical or esthetic reasons.

Many clubs have gone to steel frames, extra sturdy wire, padlocks, and plate-covered hinges. Human predation is the issue here and unfortunately must be considered.

In all cases of screens, the mesh should be fine enough to keep out natural predators, but open to permit feeding from without. It is desirable to keep the screens in place as much as possible to eliminate debris from the raceway and the bulkhead screens, in addition to the predator issue.

Some clubs have gone into rather elaborate screening arrangements complete with roofs. In addition to the above uses, these roofed-over nurseries provide some shade in the summer, helping with temperature problems; and the sides can be covered with plastic sheeting to reduce freezing and excessive snow in the winter. Of course, the flat nursery screens can be covered with plastic for the same purposes.

A final comment on screening—heavy, tight screens, firmly placed, may prevent fish loss during flood periods. A number of clubs came through “Agnes” in reasonable form because of quality screening.

On another issue, oxygen may become deficient, following construction. Nitrogen may also increase dangerously, resulting in fish kills, “popeye”, and other problems. Aeration is a cure, solving both of these problems. However, aeration is not the only answer to nitrogen and oxygen troubles. Thinning crowded raceways, using alternate water sources, reducing temperature, and feeding cutbacks are helps.

Getting back to aeration, devices can be put into three categories: the splash-gravity type, a variety of pumps, and a series of baffles. The purpose of these aids is the same: to churn oxygen back into the water and release nitrogen gas into the air. The gravity systems rely on drop and splash; the pumps electrically stir the water with the “minnow saver” style being effective and inexpensive; and the baffles create swirling currents that produce aeration in the process.

As mentioned before, severe aeration problems should be called to the attention of Bob Brown and his staff, or the District Waterways Patrolman. It doesn't take long for a nursery to go sour when the oxygen drops off, or the nitrogen picks up.

Storage facilities add to the appearance of the nursery and the convenience of the work crew. Many clubs build a unit that provides storage for both tools and dry food. Only reasonable amounts of food should be stored to prevent molding and staleness. The same building might contain a freezer, a grinder, and processing area for “wet” foods. These buildings are a matter of taste, money, and need as related to the size of the nursery and the club.

Another worthy addition that helps feed the trout, defrays costs, attracts visitors to the site is the use of gumball machines that dispense pellets for a token coin. Visitors enjoy feeding the fish and there is control of what the fish are fed. And attracting folks to the site advertises the Program and the share the local club has in it. Similarly, many nurseries are attractively landscaped and housekeeping is in evidence. The total esthetic effect makes the site pleasing and reflects the organization's pride in its nursery. It is an item to consider in the overall picture.

Finally, it's time to stock the first year's crop—the ultimate goal has been reached. Again there is variation based on location, waters to be stocked, number of fish, and date of year. Many clubs have their own trucks, tanks, and aerators; others use temporary equipment. In some cases—the Lake Erie region—simply opening the bottom screens allows the young fish to migrate to the lake. In any event, stocking schedules and procedures should be worked out with Bob Brown, his staff, and the District Waterways Patrolmen involved.

And that's the how-to and the what-to of the Pennsylvania Fish Commission's COOPERATIVE NURSERY PROGRAM.
KEYSTONE CAMPING
by Thad Bukowski

Hickory Run Park

I applied plenty of brake beyond Lehigh Tannery as we turned off I-80 towards Hickory Run State Park in Carbon County. The 18½ foot, 3,500 pound rig pushed a mite hard as we cautiously made our way down the big hill to the center of the park.

The Administration building was a white farm-like structure at the bottom of the hill. A small null pool and frame chapel were across the road.

We were informed to pick a spot, set up our trailer, and come back with the number of the site we chose. Park camping was situated just off the road near the top of the next hill. I backed into the slot, disengaged, then whipped out my fly rod in preparation for a quick look-see at the fly-fishing area of Mud Run while my wife prepared a buzz-supper.

Hickory Run State Park camping in 1972 was still primitive in a somewhat barren field with the camp spots backed against hardwoods in a rectangular-like format. But two new rustic campsites farther down the hill and nearer to many of the park's fine trails and recreation groves were being readied for the future and include all modern facilities.

Although Hickory is primitive, nevertheless it fills up by weekend and was jammed by Saturday of the week we visited. The park administration lists five nearby private camping areas on its bulletin boards to help the situation. Another fine gesture is the listing of all nearby church services of the area.

Hickory Run State Park is a 15,500 acre tract in the western foothills of the Pocono Mountains and was transferred to the state by the National Park Service in 1946. The area is almost entirely wooded and is rich in scenic interest, wildlife, plant life and a number of well-marked hiking trails. Not too far away by car, a new pleasure spot providing interesting boating and fishing is the recently completed Beltsville Reservoir to the south (See "Big Boom at Beltsville", May, 1973).

One of the park roads leads to the Boulder Field, a 23 acre geological wonder, roughly 500 by 2,000 feet in extent, and of glacial origin. The geologic surprise makes one scratch his head in puzzlement when he sees it. It looks like a large lake in the woods but with no water and composed of huge boulders jammed against each other totally void of any vegetation. Some of the boulders measure as much as 25 feet from end to end!

Another nearby spot of interest is the Francis E. Walter Dam located beyond the northern park boundary between Carbon and Luzerne Counties on the Lehigh River. It is a U.S. Army Corps of Engineers flood control reservoir of 90 acres at conservation pool. It is reached off Pa. 940, east of Lehighton, or L.R. 40041, north of White Haven. Boating is limited to motors of six horsepower maximum, and it has largemouth bass, walleye, trout and pike. Mud Run, a "Fly-Fishing-ONLY" area in the park contains brook, brown and rainbow trout and according to state fisheries biologists, is underfished. Perhaps this is so because its down-creek entrance takes a good quarter mile jaunt along a steeply sloped ravine to the stream pools below. A good parking lot is available above and the contemplative trout really has a chance to spend a day here in solitude. Although the pools are both extensive and deep, it would be difficult to make one's way along the stream's shore for any distance in this cliff-like hideaway.

It was near evening when I got to the spot and I remained only long enough to try some "super-casts" to a few dimpling trout at the lower end of a long pool. I lost two tippets stretching my efforts. As night was falling, I huffed back up the steep incline to the parked car.

About a mile farther upstream (from the lower parking lot) is the upper entrance to the fly-fishing area, at the eastern outskirts of the park. It is much easier to reach, I noted, when I ventured to it the next day. Mud Run, at this point, is easily approached along a woods path that winds to the stream and opens at a fine waterfall, below which are some excellent pools into which flow the turbulent waters.

Trout streams within the park boundaries also include Fourth Run, Spring Run and Hickory Run. All receive brook trout plantings during the past season with Hickory taking 4,300; Fourth Run, 1,150; and Spring Run 1,650 while Mud Run was stocked with 2,200 browns. Quakake Creek, southwest of the park was also well stocked with brooks.

The road from Bridgeport, off I-80, past Lehigh Tannery, is steep enough that if the camper is coming from this direction with a heavy rig, it might be easier for him to continue to the next interchange and come in by Rt. 903 to Rt. 534 where the distance is a bit longer, but without big hills. That's the way we departed after our few pleasant days at the park.
A Musky fisherman, BOB PETRO of Latrobe, holds the 4½-inch, 22½-pounder he landed from the Kinzua Tailwaters last October.

ALEX LUPINSKI of Scranton was fishing at Lake Wallenpaupack when he caught his beauty—a 32-inch, 12½-pound walleye.

FRANK FULKENSON of Berwick is a carp fisherman. This 30-incher is one of two he took from Briar Creek one day last May (’72).

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LESTER CLARK, II, of Loysville holds his 19½-inch, 3½-pound smallmouth bass which he caught from Shermans Creek. It hit a hellgrammite on his spinning equipment.

ALEX LUPINSKI of Scranton was fishing at Lake Wallenpaupack when he caught his beauty—a 32-inch, 12½-pound walleye.

A Montoursville and Susquehanna River fisherman, STEVE MONDELL, caught his nice smallmouth, 18½-inches, using a nightcrawler.

CLOYD SHAFFER of Selinsgrove was fishing near his home in the Susquehanna River last August.

This lucky fisherman, DAVID BURFIELD, caught two muskies in one day while fishing at Kinzua Dam in Warren County. One measured 41½-inches and weighed 21½-pounds while the other was a 40½-inch, 20½-pounder.

CLOYD SHAFFER of Selinsgrove was fishing near his home in the Susquehanna River on a chub last August.

STEVE MONDELL of Montoursville caught his nice smallmouth, 18½-inches, using a nightcrawler.

NICHOLAS CARROLL of Elizabethtown caught his 1½-inch rock bass from the Susquehanna River on a chub last August.

A Montoursville and Susquehanna River fisherman, STEVE MONDELL, caught his nice smallmouth, 18½-inches, using a nightcrawler.

FRANK FULKENSON of Berwick is a carp fisherman. This 30-incher is one of two he took from Briar Creek one day last May (’72).

This lucky fisherman, DAVID BURFIELD, caught two muskies in one day while fishing at Kinzua Dam in Warren County. One measured 41½-inches and weighed 21½-pounds while the other was a 40½-inch, 20½-pounder.
A Sunbury youth, EDWARD WEIKEL, proudly holds his nice 23-inch, 5-pound, 13 ounce, channel catfish taken on a worm from Towanda. It was a 201/2-inch, 3 3/4-pounder caught on Bruce's sonic Penns Creek in Snyder County and DAVID BINGAMAN of Herm- lon (right) was fishing the Susquehanna in the Liverpool Falls Manheim holds his 201/2-inch, 4-pound smallmouth taken from the area when he caught his 21-inch, 4 1/4-pound smallmouth.

HARRY REPPERT of don (right) was fishing the Susquehanna in the Liverpool Falls Manheim holds his 201/2-inch, 4 1/4-pound smallmouth. It was a 20 1/2-inch, 3 3/4-pounder caught on Bruce's sonic Penns Creek in Snyder County and DAVID BINGAMAN of Hern- lon (right) was fishing the Susquehanna in the Liverpool Falls Manheim holds his 201/2-inch, 4-pound smallmouth taken from the area when he caught his 21-inch, 4 1/4-pound smallmouth.

A Halifax fisherman, DAVID DEP- PEN, proudly holds the 20-inch, 2 1/4-pound channel catfish he caught from the Susquehanna River with spinning gear and a tubfish.

FOR OUR NEW SUBSCRIBERS

We receive many more photos than we can possibly publish and have limited the FISH TALES section to pictures of CITATION SIZE FISH ONLY.

Citation applications are available at sporting goods stores or from your local Waterways Patrolman.

IMPORTANT:

Citations are awarded for fish caught in PUBLIC WATERS ONLY! Waters must be open to fishing by the general public without payment of fee. Photos should carry complete information on the back—name and address, species, length, weight, when and where caught and the bait or lure used. Print plainly but do not press with a ballpoint pen—we cannot use photos with writing “showing through” or those which are cracked, blurred or poorly exposed.
Fishing Outlook
continued from page 3
ports good numbers of catfish, carp, suckers, eels and some game fish plus the migratory fishes. From the bridge down to Marcus Hook, a distance of 20 miles, is the critical section of the river. The effects of the tides, six hours coming in, and six hours going out, are just not strong enough to carry away the heavy load of domestic and industrial wastes. Except when there is very high water, this stretch is like a “yo-yo.” Back and forth goes the water carrying with it an ever-increasing load of oxygen robbing material that must be broken down. River experts have estimated that it takes 17 days for water to clear the stretch from Trenton Falls to Marcus Hook.

Striper fishermen have concentrated on the area from the Tacony-Palmyra bridge upstream to Trenton Falls for many years. Their fishing techniques, favorite holes and catch-es have been as secret as the location of a treasure chest filled with gold! During June and July, when stripers are swept by the currents, the water to fall with a suddenness creating violent currents, ripples or “rips,” as they are called. These are the places to fish for the stripers.

Drop-offs can be located by studying depth charts of the river area, or by using a sounding device. There is a good “rip” located near the Penn-sylvania side of the river extending from the Tacony-Palmyra bridge upstream for half mile or so. There’s another about one mile above the bridge near the Jersey shore and a third is located directly opposite the Northern Metals plant which is roughly 1 1/2 miles above the bridge.

BOOK REVIEW
FLY FISHING THE LAKES

Most fly fishermen need not be told the special satisfactions of their artful sport. However, most flyfishermen, by restricting their adventures to brooks, streams, and rivers, are missing one of angling’s most thrilling and challenging opportunities—lake fly fishing.

Rex Gerlach, a veteran fisherman and journalist, has spent over 20 years delving into the mysteries of the lake environment. Through hundreds of hours of experience he has also reached an unequalled understanding of the intricacies and nuances of fishing the still waters with a fly. Now he has generously disclosed his secrets in a new book, FLY FISHING THE LAKES, the first comprehensive discourse on the theory and method of lake fly fishing.

Gerlach tells you how to approach the lake, how to “read” the waters with skill and confidence. He instructs you to adapt retrieves, wiggles, mooching, and trolling to the complexities of the calm waters. A special feature of the book includes fly dressings specifically designed for lake situations. Also discussed are the habits, food, and flies which attract every major game fish, from the trout to the landlocked salmon, the bass to the bluegill.

Illustrated with dozens of photographs and drawings, FLY FISHING THE LAKES is a stunning exposition of this exciting challenge of sportfishermen.

Order from publisher, WINCHESTER PRESS, 460 Park Ave., New York, N.Y. 10022. 163 pages, $6.95. (NOT AVAILABLE FROM PA. FISH COMMISSION)
The Unseen Amphibians

Of all the wild creatures encountered by anglers and woodland wanderers, none are more secretive and obscure than that group of tailed amphibians known as salamanders. Pennsylvania's two giant salamanders, the hellbender (see Penna. Angler, August 1972) and the mudpuppy (see Penna. Angler, November, 1970), are entirely aquatic—leaving the water only on the end of a fisherman's line and then only temporarily.

Most species of salamanders, however, hatch in water and move onto land after a two to four month larval period. During this time they resemble adults except for orange or red external gills. A few, such as the red-backed and slimy salamanders, have completely abandoned their aquatic ways but still require the moisture of a forest floor to survive.

Salamanders are generally nocturnal, spending the daylight hours beneath leaves, rocks and logs or under the banks of slow-moving streams and in springhouses. In the winter they crawl into earthen crevices and hibernate or remain semi-active in moving water. Due to our geographical location, extensive woodlands and the waters of three great drainage systems, Pennsylvania has a wide variety of salamanders totaling 21 species. Of the eight known families in the world, six of them have representatives in the Keystone State. Let's take a closer look at some of these obscure creatures.

Giant Aquatic Salamanders

The grotesque mudpuppies and hellbenders comprise this family. Waterdogs, as mudpuppies are sometimes called, never really mature. Their feathery, red gills are present during their entire life. Hellbenders have lungs. Their diets consist of worms, leeches, crayfish and an occasional minnow, sculpin or darter.

Mole Salamanders

The spotted, marbled, tiger and jefferson salamanders are all classified as "moles". The family name is appropriate because they live largely underground except at breeding time in the spring. They are exceptionally long-lived, reaching ages of 16 (tiger) and 20 (spotted) years. All are woodland dwellers, returning to water to mate and lay eggs. Larvae feed on aquatic insects while the adults add slugs, earthworms and land insects to their evening menus. The spotted salamander is found throughout the state, the jefferson

Lungless Salamanders

Another name for this family might be the "woodland" salamanders. As the name implies, they do not have lungs but breathe instead through their moist skin and mouth linings. If you hold one of these salamanders at eye level the "beating chin" can be seen.

Most do not undergo an aquatic larval stage but emerge from the eggs as young adults. They grow to an average length of six inches.

The red-backed and slimy salamanders are found throughout Pennsylvania, the latter being so named due to a sticky coating that renders it unpalatable to predators. Although not poisonous, the glue-like substance is extremely difficult to wash off. A color variation of the red-backed, often called "lead-backed", is found throughout its range.

The northern dusky salamander sticks close to woodland stream borders where it lays its eggs. The young must then make their way to water on their own, a feature unique among Keystone salamanders. Here they live and grow for 8 to 10 months before transforming into an adult. The Allegheny mountain salamander, recorded in 38 northern and western counties, can be found in well saturated areas near streams and springs. Next month we'll continue our discussion of these "unseen amphibians."
Driftwood at Pymatuning Lake

PHOTO BY EDWARD T. GRAY

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