

Pennsylvania Angler

MARCH 1956



G_{rass} . . . symbol of S_{pring}

“ALL FLESH IS GRASS, AND ALL THE goodliness thereof is as the flower of the field.”

In these words the Prophet, Isaiah, wittingly or not, summarized a fundamental biological concept; for, in truth, grass feeds the ox, and the ox nourishes man.

Green plants, only, are endowed with the ability to capture the energy of the sun, and to utilize it in combining carbon dioxide from the air with water from the earth in the synthesis of sugar, the basic source of energy for living things. Indeed, grass, as a symbol of vegetation, is essential for the maintenance of animal life. However, it is not my purpose here to expound either on the importance or the chemistry of photosynthesis. Let us, on the other hand, consider grass in relation to man, and to the land on which he dwells.

Grass in the temperate zone is one of the most widely distributed types of vegetation. Grass in its wild and cultivated forms is food and shelter for both man and animals. Grass is wheat, oats, corn, and rice; grass is forage, pasture, lawn, and putting-green. Grass in time will heal all man-made scars upon the land, rebuild the soil, restore beauty to a barren area.

John James Engalls, in 1872, paid enduring tribute to the grasses of the world:

“Grass is the forgiveness of nature . . .

Forests decay, harvests perish, flowers vanish, but grass is immortal. Beleaguered by the sullen hosts of winter, it withdraws into the impregnable fortress of its subterranean vitality, and emerges upon the first solicitation of spring. Sown by the winds, by wandering birds, propagated by the subtle horticulture of the elements which are its ministers and its servants, it softens the rude outline of the world. Its tenacious fibers hold the earth in place, and prevent its soluble components from washing into the wasting sea. It invades the solitude of deserts, climbs the inaccessible slopes and forbidding pinnacles of mountains, modifies climates, and determines the history, character, and destiny of nations. Unobtrusive and patient, it has immortal vigor and aggression. Banished from the thoroughfare and the field, it bides its time to return, and when vigilance is relaxed, or the dynasty has perished, it silently resumes the throne from which it has been expelled, but which it never abdicates. It bears no blazonry or bloom to charm the senses with fragrance or splendor, but its homely hue is more enchanting than the lily or the rose. It yields no fruit in earth or air, and yet should its harvest fail for a single year, famine would depopulate the world.”

R. D. Burroughs

—*Michigan Conservation*

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Yippee! It's Branding Time

(on the old Benner Spring range . . . that is)



COWBOYS don't wear hip boots . . . They don't substitute a wood burning toy for a branding iron . . .

They don't use an anesthetic instead of the old fashioned lasso and "piggin' string" . . .

So, maybe technicians in the field of fisheries research shouldn't be labeled "cowboys," but they surely are doing some branding, using hip boot, burning tool and anesthetic.

Instead of branding cattle, however, they're branding fish.

The reason? An effort to find better ways of marking fish so their travels and careers may be followed easier in order to try to discover how to provide more and improved fishing opportunity for Pennsylvania's license buyers.

No final answers have been disclosed as yet, but progress has been made, and the experimental work continues, at Benner Spring research station, with Biologist Keen Buss doing much of the work, under the watchful eyes of Chief Biologist Gordon Treubley and Assistant Executive Director Albert S. Hazard, and with Consulting Geneticist James Wright of Penn State University often lending a guiding hand.

Something like four years ago, Buss began wondering why some of the techniques that have been used for more than a century in the western states in branding cattle might not be employed on fish in Pennsylvania. The idea wasn't entirely new; various methods, including the use of organic dyes, had been tried at various times and places. Somebody, years

ago, had put a brand on a gar in another state, and Buss picked up the idea and started experiments.

He began with a toy, one of the little hand operated wood burning gadgets that children, and grownups, used to employ a couple of generations or more ago in making decorative "God Bless Our Home" plaques with rose or dogwood borders, to hang on parlor walls.

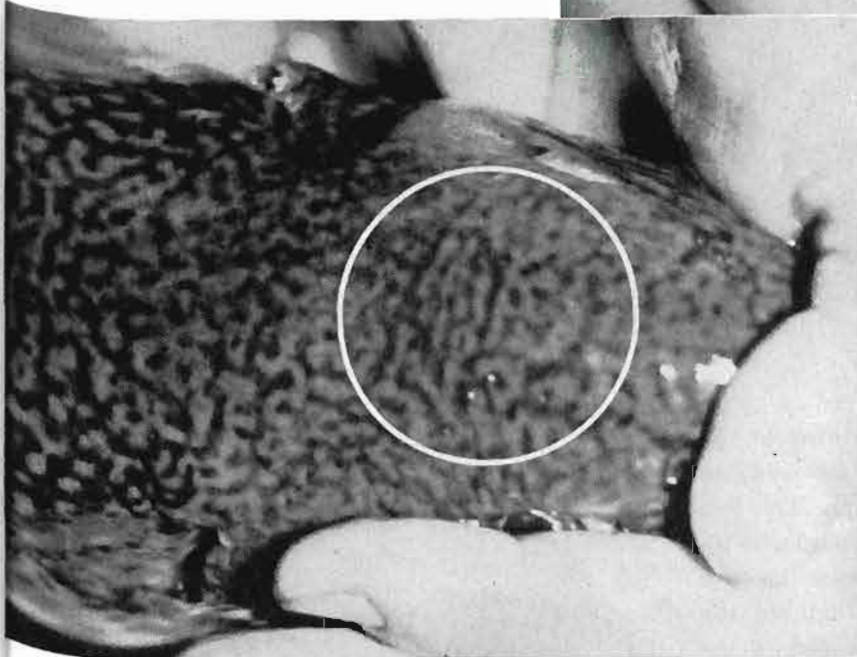
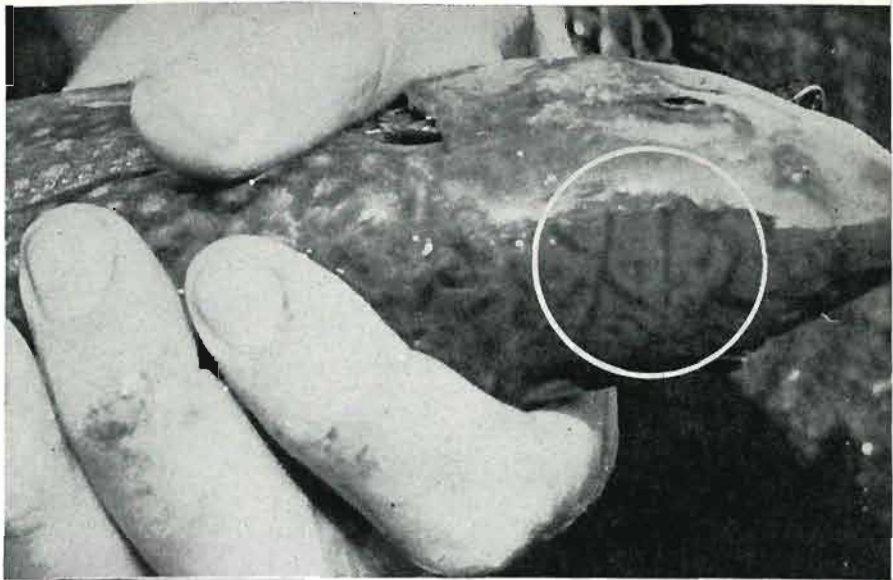
The experiment still has a long way to go, but the results to date have been encouraging enough to warrant further study.

Older methods of marking fish have been considered unsatisfactory for many reasons. Jaw tags are subject to a degree of loss, and they interfere with eating and respiration. Body tags of different materials may induce fungus growth, may become lost in nets, or may be torn off in the course of a fish's daily routine in a stream. Fin clipping has its virtues, but is more limited in applicability than fisheries researchers like or want.

So, the search for something new and better, which eventually swung around to a questioning look into branding might prove fairly simple, provided all the fish could be marked the same way, as cattle are. In the western livestock business a single mark is fine; it is merely used to identify a specific cow or steer as the property of a specific owner.

In fish marking, however, the idea is to follow the vagrant adventures of many fish, each of which should be marked differently, so that where a specific fish travels, or what happens

A BROOK TROUT BRANDED in the Initial experiment November 7, 1951 shows a crude "X-12". Photo taken 15 months after branding.



FOUR YEARS LATER "X-12" still persists. Although barely discernible in photograph, brand is very evident when trout is in the water.

to it after it is stocked, may be followed, reported, noted and evaluated. This means each fish marked should be branded with a separate number or code.

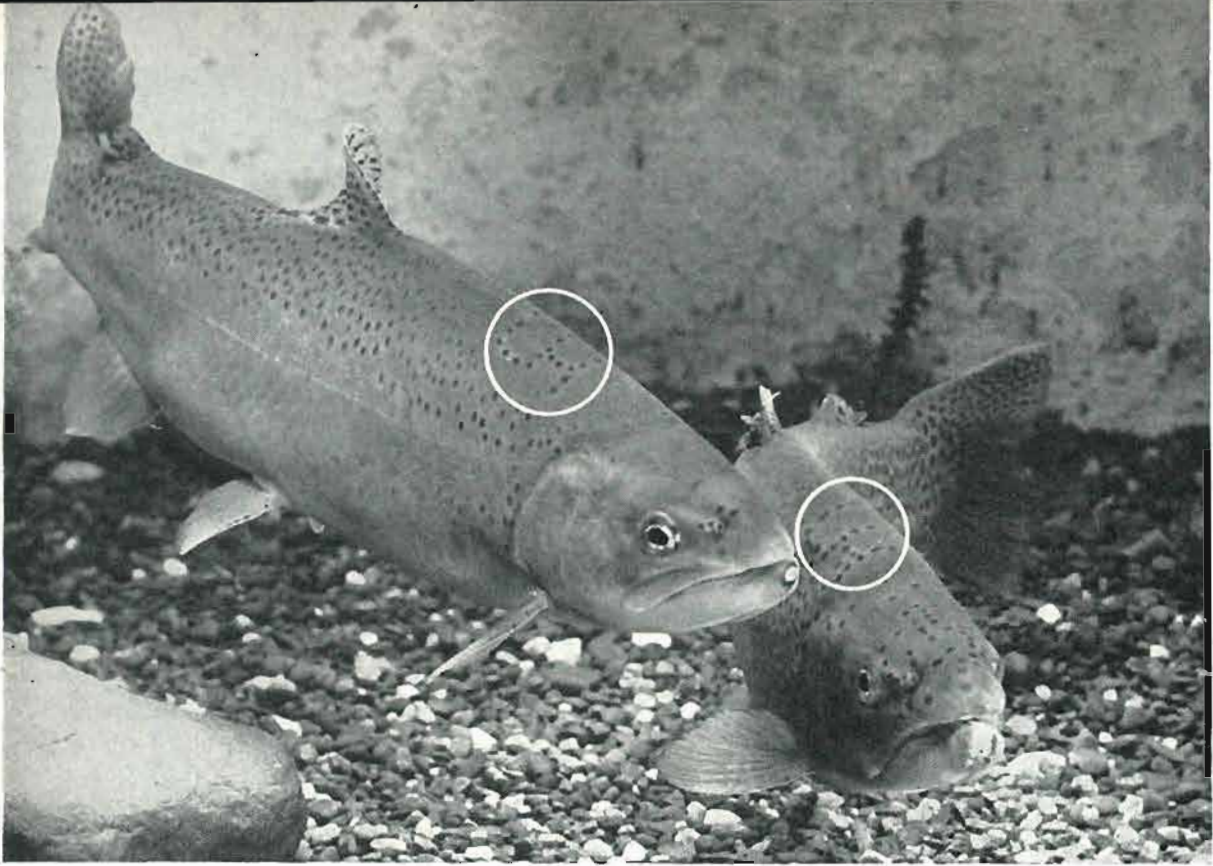
Michael Hudoba of Washington, D. C., national capitol editor of the magazine *Sports Afield*, was being told of the problem not long ago, and tossed out an idea.

"Why not rig up some variation of a common little numbering gadget, with lettered and numbered reels, so they could all be heated simultaneously by electricity?" he asked. "Then, as each fish is marked with its exclusive code letter and number, the technician could press the lever and a new number would come up for the next fish to be branded."

The idea was so intriguing that it was passed along to the fishery researchers of the Commission, and something may come of it, although it is far too early to tell whether the idea is practical or will develop "bugs" putting it beyond reach.

This account, so far, may give some tender hearted souls visions of a red hot iron, of calves bawling in pain and distress, and of poor fish suffering tortures.

And that means the simple old branding iron can't do the job. It means that each fish must be marked slowly, laboriously, by hand, or that some inventive genius must come up with a bright idea of some newer and faster marking technique.

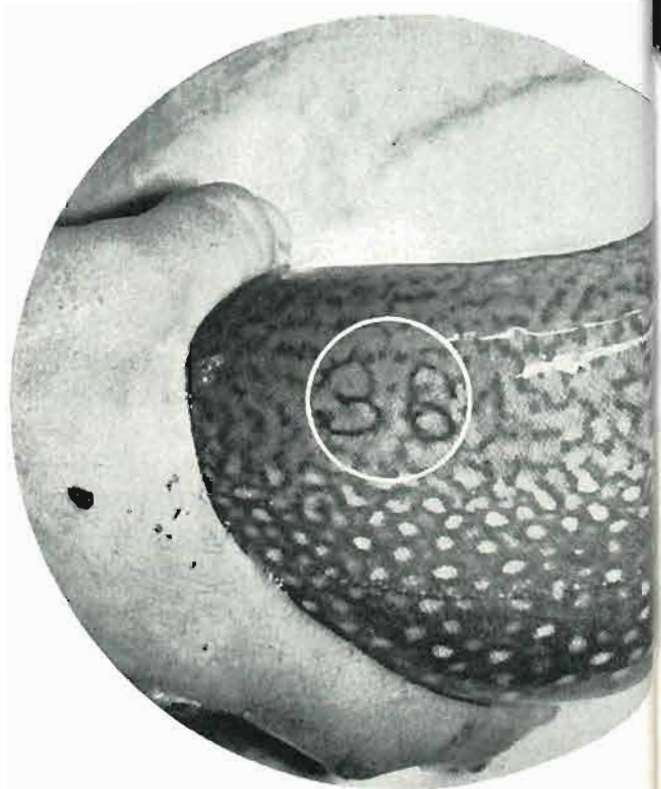


THE BRAND "LH" on the back of rainbow trout is made up of spots—a very striking contrast to the solid pigmentation of brook trout brand.

That wouldn't be the case, according to the best information obtainable, and according to modern techniques of fish handling. The fish would be put under light anesthesia, with the same effect as when a dentist gives a patient a shot in the jaw to eliminate the pain of drilling a hole in a tooth, but in the case of the fish the anesthetic would be administered to an entire lot of fish by introduction into the water in which they are held. The brand would be put on them, they'd be transferred to untreated water, and in a few minutes they'd be swimming about as lively as before, apparently with no memory of the incident and no lingering pain.

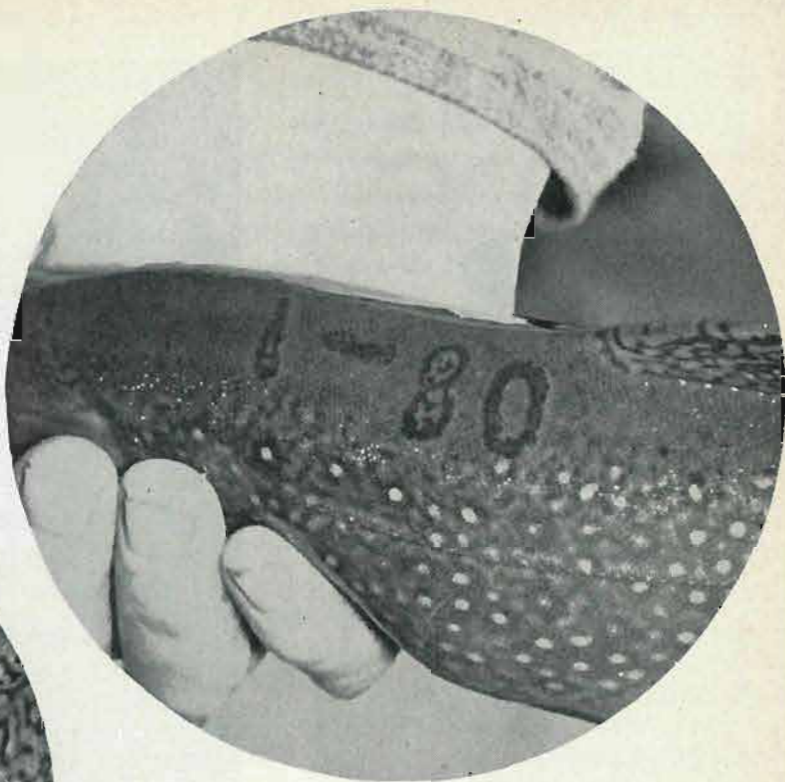
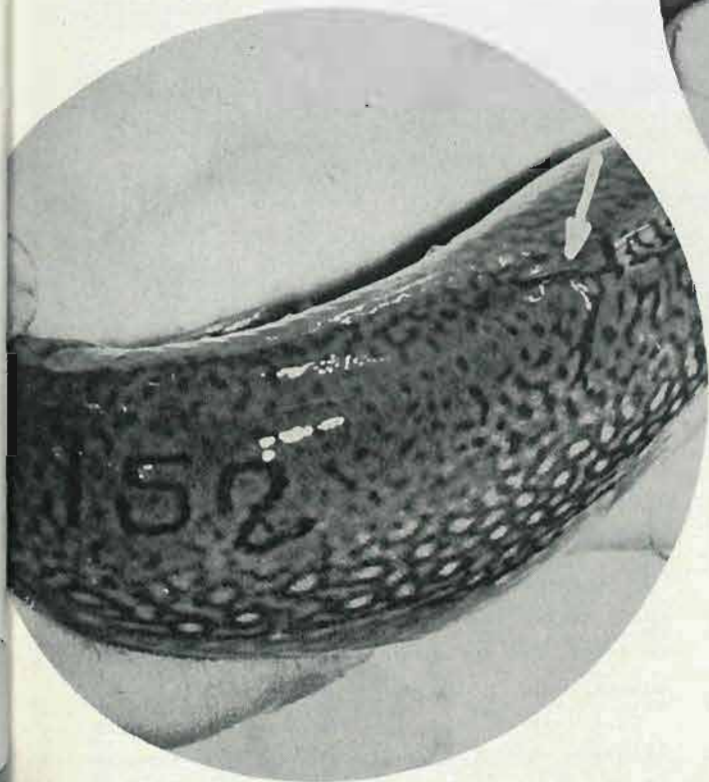
Now, much of what has been written here has not yet happened. Some of it, especially that part about devising some speedy way of fish branding, is still in the "think and talk" stage. However, it may come. It appears plausible and the Pennsylvania Fish Commission wants to see if it can be done.

Meanwhile, look at the pictures and see some of the results of the experiments to date.



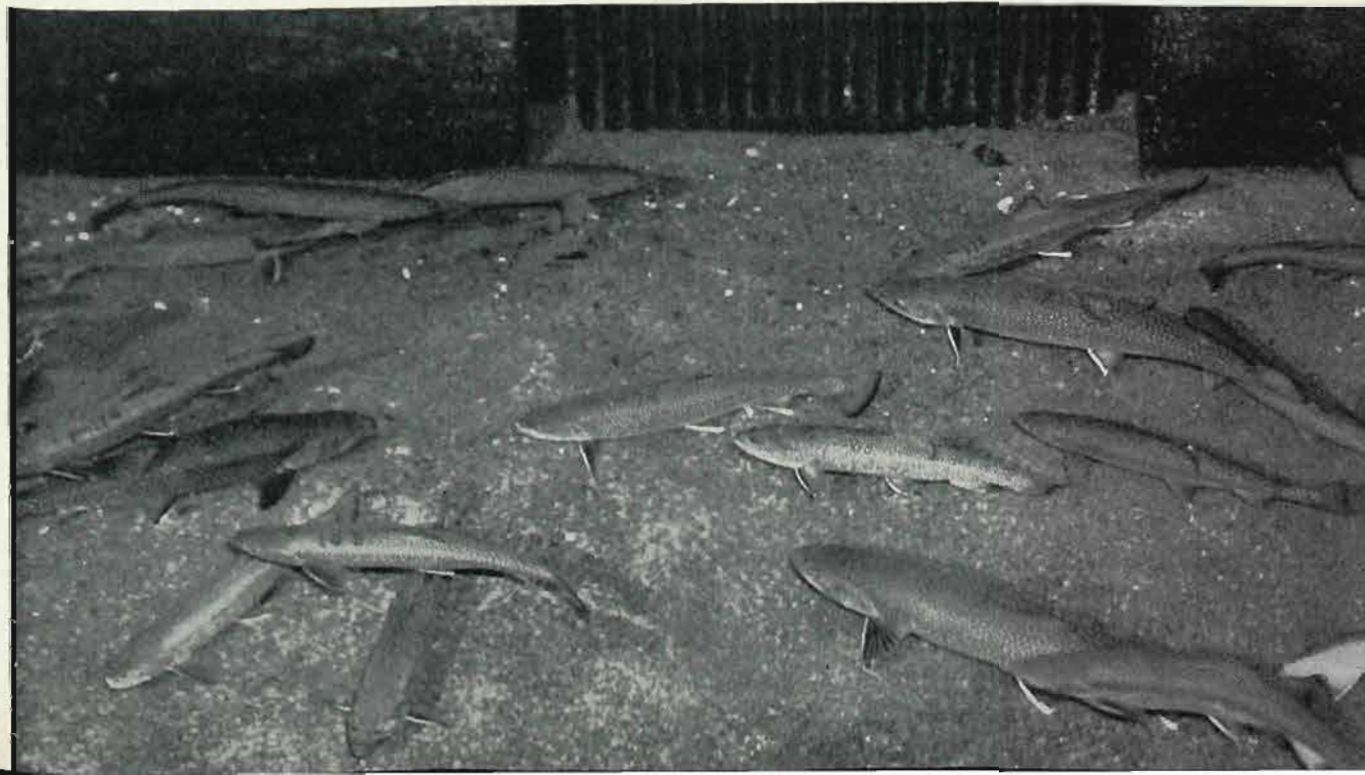
BROOK TROUT branded "36". Resulting wound healed in fine line.

BROOK TROUT "152" had previously been tagged with nylon thread and a plastic tag at the anterior end of dorsal fin (arrow). The black "V" shape pigmentation is result of former wound caused by irritation set up by the nylon thread and tag.



"1-80" ON DORSAL SIDE of this brook trout is healed in heavier pigmentation.

BRANDS ARE READABLE, though the trout are resting near the bottom of a pond two feet deep.



People

and

Land



By **JUSTIN W. LEONARD**

Assistant Deputy Director
Michigan Department of Conservation

THE earth is productive. Its productivity staggers the imagination if we think of all the teeming life it has supported since life's creation. Yet its productivity rests on simple things: land, water, and energy from the sun.

Five billion years ago the earth came into existence, a tiny speck in the awesome stroke of creation which sent our galaxy and its millions of sister galaxies reeling through incomprehensible space. Yet this tiny speck of matter contained within it all the elements needed to build an amoeba or an elephant, a toadstool or a redwood, a pterodactyl or a man.

For two and a half billion years the earth has supported life in infinite variety, all resting on the simple but wonderful miracle of chlorophyll, the heart of the green plant, which can use the sun's energy and the raw elements contained in land and water to build the carbohydrate molecule.

But if the earth has maintained life through such changes and spans of time, why should the conservationist express concern? For that matter, why should he even exist? The answer

lies in man's new attitude toward the earth. And I use the word new advisedly, for it is only within the memory of most of us that this new attitude has arisen—the attitude that man's highest goal is to alter the face of the earth, and in doing so to ride over her roughshod, forcing her to his will rather than winning her consent.

From the first, man lived in close harmony with his environment. He respected the earth for her unfailing bounty. In pre-Christian times he worshipped her as a fecund and generous goddess, the Earth Mother. In historic, but still pagan times he revered her as the Great Mother of the Gods, under as many names as there were racial tongues—Gaea, Rhea, Demeter; Aphrodite, Cybele, Persephone; Isis, Astarte, Ishtar.

Through much of man's history, his demands on the earth's resources were modest in the extreme. They were, in fact, little greater than those of brute animals. Loomis has remarked that if we were to liken the half million years of man's existence to one man's 50-year lifetime, we could say that his first 49 years were spent as a food gatherer—as a hunter and fisherman, usually nomadic in habit—and that only last year did he settle down and learn to grow his food by cultivating crops and domesticating animals. On the same time scale the harnessing of steam power and the start of the Industrial Revolution happened only a day or so ago, and the common availability of electric power and the dawn of the Age of Atomic Power are developments of the moment.

To revert again to the normal time scale, it is only within the last two centuries that man has possessed inanimate power in a supply sufficient to let him think seriously of altering the face of nature, and sufficient to let him make significant inroads on the non-renewable resources—ores, minerals, fossil fuels—whose maximum abundance was established when the earth was formed. It is safe to say that man has made a greater dent in these non-renewable resources within the past 50 years than during all the millenia of his earlier existence.

The key to man's new and untried domination over nature is inanimate power—the power he commands at the touch of a button or

switch. Not only has it enabled him to exploit mineral reserves at a fabulous rate, but it has enabled him to feed the rapidly growing populations fostered by industrial civilization. In 1820, the average American farmer produced enough food to support himself and four others. Today he can produce food for 15 others.

No longer is modern man's productive capacity determined by the strength of his muscles. His intelligence, guiding the power of the machine, has increased his productive capacity so greatly that his working habits have been revolutionized almost within a generation. Now, almost within our own memories, the working day has dropped to ten hours, then to eight hours, and the work week from 60 hours to 40, with the 35 or 32-hour week an imminent possibility.

All this spurt in individual productivity, which makes so much leisure possible for so many, stems from man's new-found ability to exploit and process the earth's resources with unheard-of rapacity.

Nor, is this necessarily evil. Being men, it is logical for us to conclude that man is Nature's highest achievement, and that the wealth of her resources should be his. In that view, which most of us hold, resources have value only as they are of use to man.

There are two prominent schools of thought today, so far as our resources picture is concerned. There is the pessimistic school which views with alarm and with Cassandra-like croakings the rapid depletion of fixed reserves. And there is the optimistic school, the "Cornucopians," who cheerfully assure us that man's ingenuity will always keep up with population growth, that science will constantly find news ways to feed and clothe us.

The optimists are made chiefly of physical scientists and engineers, and there is much to warrant their optimism in view of new and ingenious technical developments.

Natural scientists, too, have contributed to the optimistic view by their work in developing new and higher-yielding strains of food crops and animals, better methods of producing, processing and distributing food products, and in developing techniques to make the desert fruitful.

Man has the cleverness to solve almost any problem—provided he has the wit to do so and to foresee the consequences as he moves. If he does not exercise this wit, the pessimists win.

Our mastery of material skills still far exceeds our ability to comprehend the outcome of the exercise of these skills. There is nothing original in this view—many pronouncements have been made to the effect that man, by unlocking the secrets of the atom, has finally encompassed the means of his own destruction—that he has discovered the power of the gods before he has outgrown the instincts of the jungle. This may be true, and if such fears are realized we need take no thought for the future. There will be no future, at least no material future we can foresee, if we are all blown to Glory in one spectacular atomic whoosh.

But granting that we do not blast ourselves to eternity in such a fine pyrotechnic display, there are still grounds for suspicion that our cunning exceeds our understanding.

It disturbs me that the Cornucopians, in outlining their reassuring schemes for feeding unlimited population growth from the bounty of the sea or the possible mastery of the secret of photosynthesis, make no mention of what kind of life this food will sustain. I am willing to grant that future generations may be able to keep soul and body together. But the vigor of the body means little if the soul is starved.

We have an army of highly competent specialists today, each making important contributions to our material welfare, but growing further and further from reality so far as fields other than their narrow speciality is concerned. Actually, we are all growing up to be specialists—whether we are of the comparatively small group that extends knowledge or develops new gadgets, or whether we are of the much larger group that earns its bread by pushing a button on a machine other men have designed. The very sweep of industrialization that gives us the highest material standard of living people have ever known draws us constantly further from an appreciation of and respect for the homely, everyday resources on which our lives still are based.

What chance has the urban-reared child of

today to appreciate the things that support him? For him, water comes from faucet. Milk grows in containers on the front steps. To get light, one flips a switch. For food, one simply picks up the telephone, tells a voice on the other end of the wire what is wanted, and presently food arrives, attractively packaged in cellophane. Can this child be expected to realize that land still supports us all? That no matter how cunningly we manipulate it, it remains land and subject to laws far older than man?

Every new technological development seems to bring with it some new use for land. And it is imperative that the specialist who develops the new use, and the populace who enjoy it, consider the effect of the new use on other uses equally important.

Agriculture's claim to land we all recognize. The appreciable areas occupied by our industrial plants are of course in good use. The aggregate area given over to highways and railroads and airfields and marshalling yards would surprise us, if we saw it added up, but we would agree it was in good use. So, too with non-urban housing, a comparatively new development linked up with our rapid means of transportation and our increasingly shorter working day. This is a development lightly industrialized states have yet to meet; but in the metropolitan area of southern Michigan, as in other industrial areas, it is a use definitely in conflict with other uses, notably agriculture. This use of land, too, is undoubtedly good in terms of a healthier, happier and therefore better population.

Where, then, if these uses are good, is there cause for critical comment? And what matter if these uses and other financially tangible uses preempt the land and leave nothing for the intangible, non-consuming use of recreation? The question hinges, I believe on the use to which we may put the new leisure our ingenuity has granted us.

Perhaps, as populations grow and occupy more land with their gainful activities, people will grow more intellectual, and be able to find necessary relaxation by turning inward with their own thoughts—an activity that would require only a square yard of space per individual. That time, however, seems far in

the future. Most of us seem yet to feel the pull of woods and waters, and on our annual vacations—and as much oftener as we can arrange it—we set out in search of solitude that grows ever more difficult to find.

Education is generally agreed to be the hope of the future. It seems to me that education in the works of nature still is as important in our development as education in the works of man. Nearly 2,500 years ago Plato said, "The works of the Creator must be good because the Creator is good." This statement I believe is still true. And education in the works of nature must be conducted in close contact with nature. Therefore it is our duty to insure that land is available for this use.

We cannot assign dollars and cents values to intangible values, by definition. And yet reservation of land for recreational use will cost us money. It may mean keeping good land out of food production, if non-arable land is not available. It may mean building a highway at greater cost, in order to reserve a less costly route for recreational use. It almost certainly entails preventing industrial plants from releasing destructive pollution into water and air. It may be as easy as authorization of recreational use for municipal water supply reservoirs, now often prevented by archaic laws

which modern sanitary engineering has outgrown. It may be as simple as the joint use of forest for both wood production and recreation.

Reservation of land for recreational use has been a part of our past history as a nation. There are signs that the pendulum may be starting to swing the other way. Everybody's business too often becomes nobody's business. In a democracy, government at every level is government composed of ourselves, to serve our own interests. I believe that it is very much in our interest, as individuals and as a nation, to insure everyone the means of getting back to nature now and then, to help keep our prospective, to make fruitful use of our new-found leisure, and to insure that when we alter the face of the earth we do so with calculated knowledge of the consequences, not in a spirit of blind and food-hardy exuberance. Our resources are capable of supporting an ever-increasing standard of living, but only if we manage them with understanding rather than by the easiest method of exploitation that comes to hand.

Antaeus, the giant in the ancient myth, was supposed to be unconquerable because he drew his strength direct from the earth. But Hercules lifted him away from the earth and slew him.

To wait until we know all there is to know about conservation before we do something for and about it is no more reasonable than a builder refusing to build a house because he doesn't know how to build a cathedral.

The trouble with folks who absolutely refuse to believe in the welfare and progress of conservation is that they put their rights ahead of their responsibilities.

*One of the finest opportunities, a
rural school in the great outdoors—*

A Teacher Teaches Conservation

By MRS. ERNEST HARVEY

TEACHING conservation projects in a rural school never needs motivation. Our boys and girls are thrilled with a pride in their heritage—their land—their country—filled with bountiful treasures; whether they be minerals, rich soil, plentiful streams teeming with fish, or forests resounding with animals and birds.

Perhaps this is a rosy picture of what we are now handing our boys and girls. There has been a change since pioneer days when the brave men and women with hope in their souls, built this great country. Our natural resources have not always been used wisely. Now the new pioneers of hope are our boys and girls—future builders—future citizens.

Rural teachers, perhaps more than others, realize the problems of conservation more keenly because we are living close to them. Many advantages and opportunities are open to us. Any project becomes interesting if children can see the need of it, observe its cause, secure knowledge to solve it, and participate in the actual work needed for its solution.

I am certain that most of us appreciate the very fine conservation stories in our many readers concerning the facts of erosion, preserving animal and bird life, protecting the forests, controlling floods and the diminishing water supply. In the discussion of these stories, we are able to give our pupils not only an interest in things, but an opportunity to see many

ways to correct the needs in their surroundings.

In other texts we find the similar accounts of conserving all our natural resources. We have the curriculum, bulletins, outlines, helpful ideas from 4H and F.F.A., and knowledge gained in the home by taking advantage of county agents' help and advice.

Most of all, I find that our science books meet the full requirements of our conservation curriculums and when added to all the information from other sources, will prepare the children for the many field trips and projects whenever a situation is timely. Such an occasion took place in my school last spring.

We had just finished a science lesson which stated that a million tons of soil is washed into the Gulf of Mexico every day. To make it more specific, it would take 7,500 big trucks, hauling one load every hour of the day, to move the soil brought in every twenty-four hours by the Mississippi River. Is it any wonder that boys and girls are interested in soil erosion? This thought, coupled with the idea that a spring thaw was in progress, caused our school to plan a field trip to our favorite gully back of our school.

This swale or run off area had proven very useful many times in our soil erosion study. After a hard rain we have taken our recess time, physical education period, or time before school began in the morning, to walk down

to the road culvert and study the loss of soil, measure it, and observe what soil types come at certain times.

We were especially interested in this spring study because we expected to find quite a change due to a new road through the run off area.

During the late fall our side road was raised many feet and deep drainage ditches were made on each side. It was too late to plant a cover crop of clover so naturally we expected to see many more types of soil in the "run off" from the little streams trickling down the sides of the drainage ditch. When we reached the culvert area, we noticed a heavy loss of clay, small stones and better grade of darker soil.

One alert boy said, "The clay soil from these ditches could be expected but what about this darker soil coming from the upper field? It's much more laden with rich looking soil than ever before."

Jokingly, a younger one remarked "Oh that is John's expensive fertilizer from the corn field. Bet the weeds will be big in this hollow next fall.

"Perhaps we should travel up the run off area to the top of the hill and find out more about this soil loss," said another.


"Bet I know," chimed a wiser one. "It may be due to the fact that farther up on the top of the hill, a clover crop was plowed up last fall."

Among other answers to the problem of heavy loss of soil was that cow paths leading into the cattle pass were now filled with trickling streams carrying silt. Others noted a need for a change in plowing and suggested catching gophers, also wood-chucks as they were so numerous. Water seeping into their run ways into the ground was undermining the field.

Realizing that all loss of soil, even to the huge amount mentioned in our text, had a very small beginning in some tiny ditch, gave a bright idea to us. Why not fill up the little ditches? Why not begin right where we are?

A thoughtful youth said, "What about that tiny ditch in our ball field? It's a hazard and we better practice what we learned down here in the gully and save our own soil. At the same time, we will be carrying out a safety measure."

"Knowledge," said quiet Mary, "is useless, unless it's put to work." We all agreed, but there was no time today because of other classes.

The next day we began building dams at intervals across our tiny ditch which proved to be wider and deeper as it progressed toward the road drainage ditch which is much lower than our playground. Dams were made by placing pieces of old discarded seats across the ditch. Their width and height were cut to accomplish just what was needed at each particular level. They were held in place by sharpened stakes driven into the ground. Where the slope was extra steep, we placed more dams as we wished to break the force of the water. At the very beginning we built a sod diversion dam in a  shape to spread as much water as possible over the sodded clover field. Where the stream emptied into the drainage ditch we placed numerous flat rocks to prevent deeper washings.

Someone suggested that we use our ash pile and all the raked up rubbish from the yard, to fill in along the ditch to check the force of the water and catch as much silt as possible. It was spring clean up time so our work became a double project.

We worked diligently for many recess periods but what a joy and happiness each child felt as it was a co-operative task with each child doing what he liked best.

Moreover, our project not only used knowledge acquired in many other lessons but brought about pleasure, co-operation, and a feeling of responsibility which will be carried over into adult life.

This September I was greeted by shouts of several boys and girls who were there early to inspect the dam. Before I had the car door opened, I could hear "Our dam held! It's growing over with a clover crop—more than twenty branches from each clover plant! Not even one dam was cut around or broken!"

Enthusiasm—yes! But appreciation of our great heritage, properly guided in conservation ideas will always awaken a great responsibility. Then our girls and boys can say with a greater pride.

This is Our Country!

By DR. CLARENCE COTTAM

Former Assistant Chief, U. S. Fish and Wildlife Service and now director,
Welder Wildlife Foundation, Sinton, Texas.

Conservation an engineering partnership

AMERICA'S basic resources—her soils, water, minerals, forests and wildlife—constitute the basis of her wealth and greatness. Her security, progress and world influence are largely dependent upon the wise use and balanced development of these resources. Any nation is rich so long as its supply of resources exceeds or meets the people's needs. Under that, no nation can be self-supporting. Competition for the necessities of life induces a death struggle among peoples as among lower forms of life. Any one who questions this can, with profit, review the history of the causes of major world conflicts. The history of the peoples of such lands as Canaan, Babylonia, Persia, Carthage and parts of east Asia serve as good illustrations.

America has been more richly endowed by Providence with abundant natural resources than any other land on earth; yet the record indicates that we have been most prodigal in their use. Chief Bennett, former eminent head of the Soil Conservation Service, has repeatedly warned that one-fifth of our original tillable land has been so abused that it can no longer sustain profitable agriculture, and one-third of the remainder is seriously impaired. Four-fifths of America's original timber stands have now been cut, and last year we consumed nearly fifty per cent more timber than we produced. The extensive grazing lands of the West generally have been so overgrazed that the carrying capacity of most of them now are

perhaps only one-third to one-half what they were originally.

Conservation Values

Conservation is not just a sentimental hobby for nature lovers, deer or duck hunters, but serious business for governments and peoples generally. It simply means wise and sustained use of the resources God has given us. It implies the maximum sustained yield that will not impair the quality or quantity of our natural renewable resources. It does not mean non-use but a harmonious balance between man and his environment.

Fish and wildlife are among our great resources which must be preserved and wisely used. That America appreciates their value may be shown from the fact that during 1954 more than 14 million persons in the United States bought hunting licenses. Another 18½ million purchased fishing permits. Two and one-third million bought Federal duck stamps. Probably another six to nine million, who were not required to buy licenses, also participated in these all-American sports of fishing or hunting. In the pursuit of their favored sport fishermen and hunters spent somewhere in the neighborhood of five to nine billion dollars last year. The food value of the captured game probably ranged from one-half to one billion dollars. In addition, commercial fish harvests amounted to about four billion, four hundred

million pounds with a total value of about three hundred fifty million dollars. For animals add other millions in economic return. As great as are these economic wildlife values, I believe the esthetic and spiritual returns to America in more abundant living, better health, and keener appreciation will equal if not exceed the direct economic or monetary values.

The public demand for sport fishing and hunting is growing by leaps and bounds, and it is certain to continue—barring a National catastrophe such as war, and providing an adequate game supply and places to obtain or harvest the resource are maintained. The growth of this demand is shown from the fact that in seventeen years the number of waterfowl hunters increased five fold in the United States.

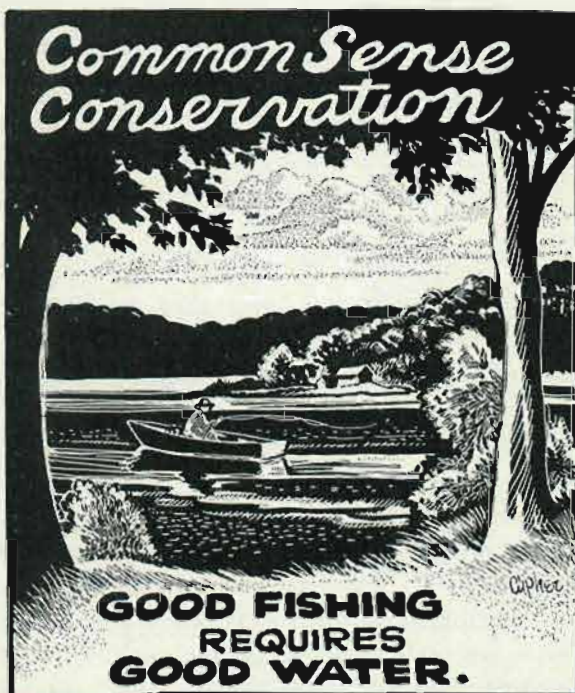
National Policy in River Basin Development

Because of the broad scope of our resources, multiple and often conflicting interests too frequently compete for their development and use. This often results in serious waste of the resource. For example, wasteful exploitations of agricultural, timber, or grazing lands induces erosion and destroys much of their basic value and results in impaired or limited public use of these lands for watershed, wildlife, and recreation.

America is expending billions in reservoir development and flood control. It is unfortunate that in the past many costly reservoir projects have been planned, constructed, and operated without consideration for the maintenance of fish and wildlife production. Long ago the public demanded a change in this policy. As an expression of this public sentiment and to implement this more enlightened concept, the Congress in 1934, and again by amendment in 1946, passed the Coordination Act (Public Law 732, 79 Congress) to "promote the conservation of wildlife, fish, and game." Experience has shown that there are loop holes in this law, so to correct these and further amend the Coordination Act, Senate Bill, S.2372, was proposed in the recent Congress. Even though time did not permit passage of this latest amendment which thereby excludes undeveloped river projects approved prior to 1946, the intent of the law, as it now stands, establishes the

National policy and philosophy that fish, wildlife and recreational interests are to be considered as full and equal partners in the planning of Federally sponsored and publicly supported multiple purpose water development projects along with power, navigation, flood control and irrigation. The Act provides that "Whenever the water of any stream or other body of water are impounded . . . adequate provision consistent with the primary purposes of such impoundment . . . shall be made for the use thereof, together with any area of land or interest therein, acquired or administered in connection therewith, for the conservation, maintenance, and management of wildlife resources thereof and its habitat therein. . ."

Through effective and close collaboration between State and Federal wildlife agencies, gratifying progress in coordinating engineering and wildlife aspects of river or valley development has been made in recent years. Even so, a great deal more needs to be done. There is sore need of closer integration with the planning and construction programs of the Federal engineering agencies. Wildlife values cannot be realized unless initial engineering planning considers this need and appropriately integrates this planning along with that of the engineers.



Cooperative Efforts in Obtaining Reservoir Values for Wildlife

The value of reservoirs for fish and wildlife depends upon many factors, including the physical and chemical conditions and characteristics of the reservoirs, the location, water depth and quality, pre-impoundment conditioning or treatment, availability of habitat including food and cover, and other necessary environmental conditions adjacent to them. Also it is dependent upon the mode and time schedule of water treatment, fluctuation schedule, and type of management including methods and practices employed in reservoir sanitation to control pollution, pest plants, mosquitoes, and other insect pests, and disease vectors. In short, the wildlife value of any reservoir may be altered immeasurably through proper coordination in planning and management. It is obvious, therefore, that in reservoir planning, construction, operations and management, it is imperative that the biologist and engineer work together.

In the past the greatest need and most difficult problem has been to get diverse and often unsympathetic, if not antagonistic, groups to work objectively and harmoniously together for the public good.

The situation today is vastly improved and many procedures have been found that benefit more than one of the diverse interests, or at least they do not cause appreciable injury to the other interest. Many notable contributions along this line have been made by research work conducted by many State and Federal agencies.

Water-Level Management

This technique has been used longer and more consistently perhaps than has any other method of malarial control. Depending upon the schedule of water fluctuations to control mosquitoes and related insect pests, it may be highly beneficial or extremely damaging to wildlife interests.

The raising of water level during the autumn months affords many acres of excellent feeding and resting areas for waterfowl. When water-levels are high, excellent refuge areas—as well as shooting areas—are provided in the South by

the inundated timber lands. Constant high water levels until early or mid-summer favor the growth of the better waterfowl food plants and it holds back most undesirable vegetation. A mid-summer draw-down often exposes extensive mud flats. A number of the more important waterfowl food plants, such as millet and smartweeds, grow in such a situation with a minimum of management. Agricultural crops such as corn, sorghum, soybeans, cultivated millets and buckwheat grown on exposed, dewatered, or drawdown lands, provide excellent waterfowl feeding when shallowly reflooded.

In many of the turbid, amber-colored or dark-water lakes and ponds, especially in the East and South, a summer drawdown affords perhaps the best opportunity for waterfowl food production. "Dark" waters seldom are very productive of fish or wildlife, and an appropriate schedule of drawdown may greatly favor both mosquito control interests and wildlife. A uniform rhythm of drawdown, or a drawdown improperly timed, may favor undesirable vegetation and be highly damaging to wildlife interests. A favorable drawdown or schedule of water manipulation may make the difference between a practically worthless or a very successful waterfowl area.

A minimum flow below the dam can be maintained by water withdrawn from the impoundment to achieve summer recession. Such increase in the minimum flow may greatly improve the stream for some species of fish. Maintenance of high water levels in late winter and spring provides many acres of overflow which greatly favor fish production.

Maintenance of a stable water level in so far as possible in early spring provides favorable water conditions for the spawning of the more desirable game fish such as bass and other centrarchids which spawn at this season in shallow water. The manipulation of waters, during the spawning season of less desirable fish, can be used as a means of control.

Dewatered areas are sometimes diked off from large impoundments in the serious malarial zone. In these areas the water is pumped out or drained off during the dry summer months and during the winters the waterlevel gradually rises. Agricultural and excellent wildlife food can be produced during the summer

and waterfowl especially find these attractive feeding habitats during the winter. In most plant and mosquito or other insect control the application of biological or naturalistic methods have proved most satisfactory.

Pollution

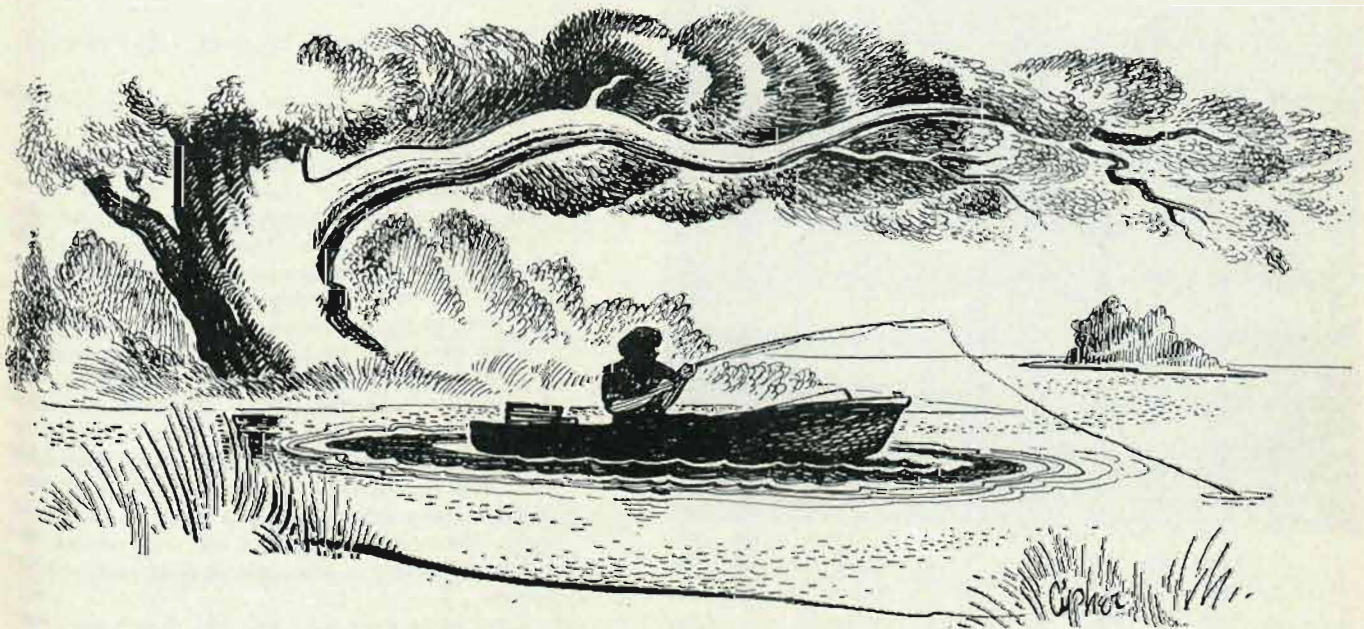
Pollution has too long been considered solely as a public health matter. The damage to wildlife, fisheries, and recreational resources by domestic and industrial wastes is tremendous and alarming. The pollution problem, as it affects public water supplies, and as it affects fish and other aquatic life, is by no means identical or uniform; consequently, abatement problems cannot be resolved by the same treatment or identical programs.

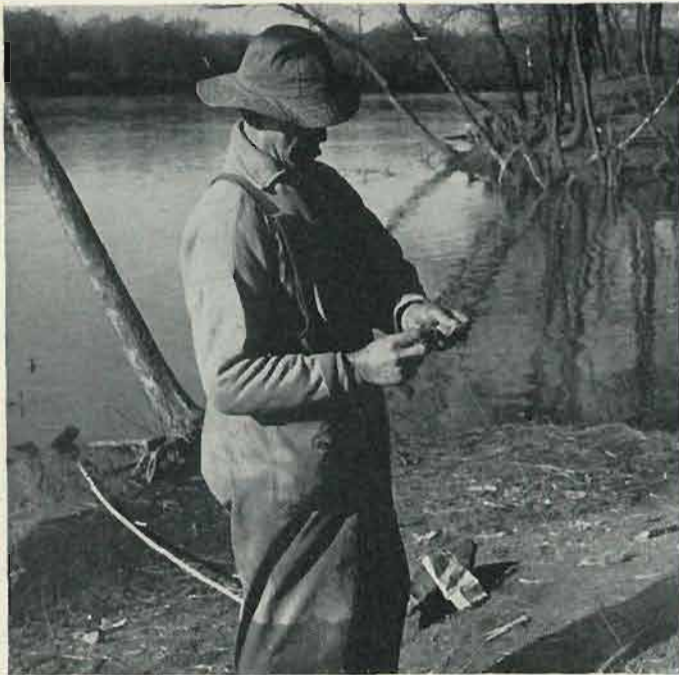
The serious and economically wasteful pollution problem calls for a more dynamic, affirmative program by industry and public generally.

Conclusion

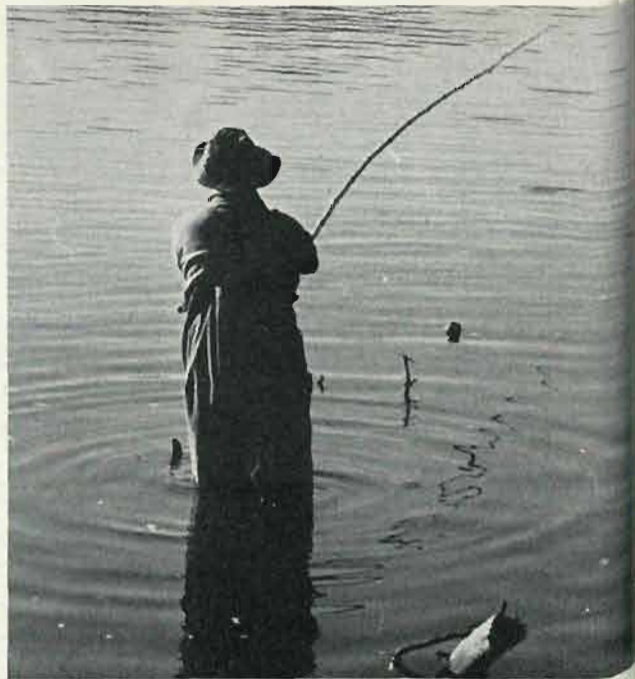
In conclusion I wish to emphasize that fish

and wildlife, as products of land and water, are influenced greatly by the manner in which these basic resources are developed and managed. With consideration commensurate with their importance, fish and wildlife have been greatly enhanced in value. Experience demonstrates the feasibility in a large measure of integrating fish and wildlife management with the use of water for other purposes, such as power, irrigation, navigation, flood control, and agriculture. For each agency concerned with water development to pursue an independent course, for each agency to provide only for those resources with which it is directly concerned, can lead only to improper use of our natural resources. There is much to be gained by working together and by so doing there is practically no loss of the objectives for which each group is seeking. In efforts to further the welfare of the people they serve, the Federal and State agencies must continue to work with construction or engineering agencies in preparing and implementing comprehensive plans for land and water use.





BAITIN' & RIGGIN' UP, early spring angler using worms, measures enough material from standard 10-yard coil of 3 to 4 lb. monofilament spinning line to reach from tip to butt.



CASTING OUT is somewhat awkward at first but with a little practice that long pole can swing for distance.



SNACK TIME between bites or a coffee break often helps. Here the angler is explaining how the light monofilament material aids in fooling the fish and how to swing a cane pole. If you doubt this method just give it a buzz. Not much style or finesse but plenty of results.

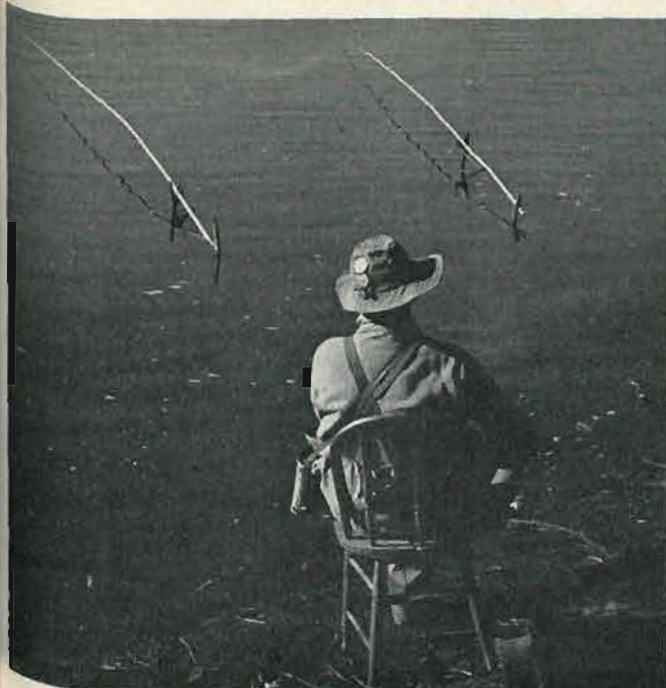
Styles in Spinning

BY SHIN

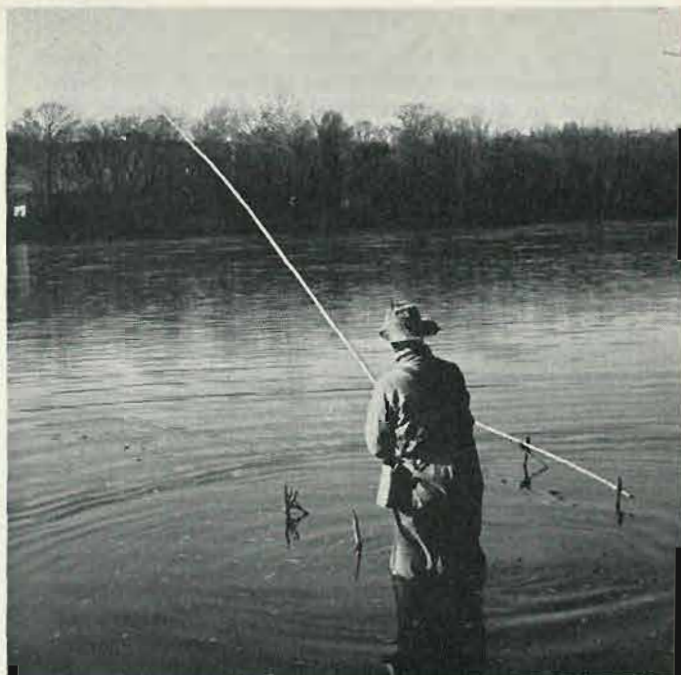
THOUGH fly, bait casting and spinning tackle have been the vogue in recent years, the old fashioned cane pole continues to remain in style for fishing Pennsylvania's lakes and streams. I seriously doubt if this ancient pole will ever become outmoded. A number of fishermen still cling to this old fashioned gear and have plenty of angling fun.

What prompted me to think the cane pole not antiquated centered around an elderly fisherman on the bank of the Susquehanna River. He handled two limber 16-foot cane poles expertly and was catching a heavy string of suckers and yellow perch. The old man baited the hook, heaved the line out into the eddy, then relaxed on a wobbly chair. But he had little time to relax. Repeatedly he jumped up, grabbed one of the poles and fought a three round bout with a kingsize sucker.

I was using a worn fly rod, rigged with an enameled line and leader. I found it difficult to face the fact that a fisherman equipped with a cane pole could out-



FORKED STICKS are used for props. You watch the sensitive end of the pole for that sudden dipsy-dol! Then, sit down and relax, wait for a sucker, perch or bluegill to take the worm.



HERE'S A BITE! That long cane pole bends plenty with a weighty fish. Since fish can only run the length of the line it is necessary to keep it swimming in a circle until exhausted.

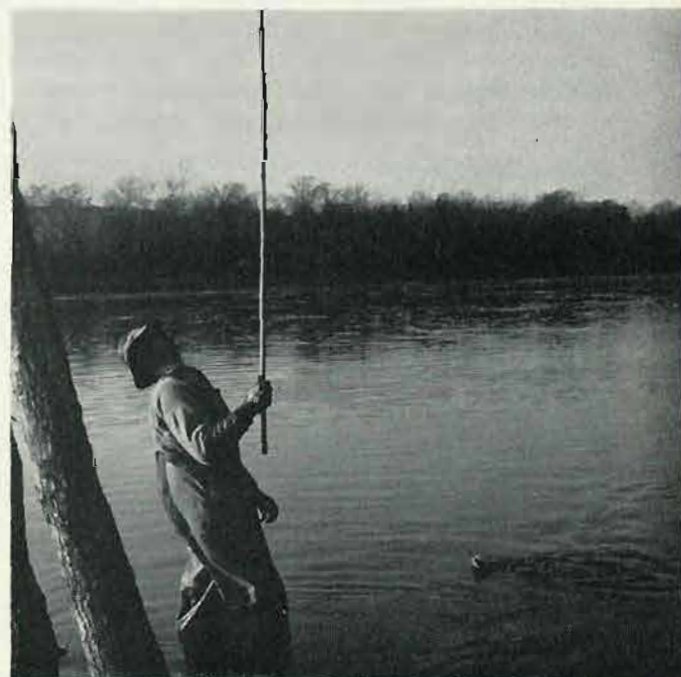
fishing

—with the old cane pole

SHINER

maneuver a fellow with a light trout rod even for spring suckers. But the old man proved it could be done. And he did it by substituting a thin three-pound test nylon monofilament spinning line for the usual heavy line. The length of thin nylon line tied to the tip appeared to be a silvery hair in his weathered hands. The connection between rod and bait was practically invisible and the worm wiggled naturally in the river current, unhindered by a heavy hook or line.

As I stood on the bank watching him lift a couple of nice fish ashore the long pole once became entangled in overhanging limbs. The pole's great length is a decided drawback, but the old man simply tore the line from the tree limb, left the baited hook and part of the line dangling in mid air. He produced a 10-yard coil of monofilament leader material from his pocket. Cutting a piece that measured three or four feet longer than the pole, he tied the new line to the tip. Two poles, a couple coils of leader material, a small wooden barrel holding a dozen hooks and



AND HERE'S THE FISH . . . but watch those overhanging limbs. If the thin line becomes tangled, simply tear it off and rig up a new length of leader material.

sinkers comprised his entire outlay of tackle. Valued at perhaps less than a dollar, he had no large investment in gear and was catching more fish than more elaborately equipped fellows on the river bank, including me. Besides he was having a whale of a lot of fun.

Other sucker fishermen nearby gave the old man's tackle the once over too after they watched him land half a dozen fish. I stood within hearing distance and overhead him tell one bystander how he used the same outfit for pickeral and bass. Substituting a heavier monofilament spinning line (about 8-pound strength) he told how he skittered minnows, frogs and strips of pork rind on weedless hooks, through lilies and beds of grass. The bait skimmed through the water as if un-

attached to a line. I heard him say that pike and bass smashed recklessly at the lure. Once hooked, the limber rod derricks the fighting fish straight from the water and onto shore or into the boat. If they are too big for this treatment, the pole is heaved into the water and fish allowed to pull it around the pond until exhausted.

All this adds up to the fact the old fashioned cane pole refuses to be cast aside or pushed into oblivion, by the newer styles of angling. Give the antique fishing pole a modern mist colored nylon spinning line and the outfit can take plenty of fish. It further bears proof that it's not so much the tackle, but the man behind the gear that counts.

Rods, Reels and Wheelchairs

In cooperation with the Pennsylvania Society for Crippled Children and Adults, Inc.

By **ALFRED K. ALLAN**



THERE was a time when physically handicapped persons were almost forgotten by society—but that attitude is changed and help has made, and is making, productive citizens out of them through the ministrations of the National and Pennsylvania Society for Crippled Children and Adults, Inc., and its 52 local societies covering 57 of the state's 67 counties.

Not only are they being made into productive citizens, but they are finding the services given them are making them feel there is a place for them in society, making them happy and even contented in their handicaps.

Many an able-bodied Pennsylvania fisherman has come across a handicapped angler along a trout stream or along the shores of a lake or river or creek. Not a few anglers have been at the veterans hospital at Valley Forge to see severely crippled war heroes—without legs or arms or with some other lesser crippling condition catching fish from a small lake stocked by the Pennsylvania Fish Commission for the enjoyment of these men who have given so much to their country.

Enormous strides have been made in physical rehabilitation which are helping crippled persons walk through the ministrations of the Easter Seal Societies, says The Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pennsylvania, which points out there are 52 local societies covering 57 of the state's 67 counties.

Those societies, last year, gave services to more than 12,000 handicapped Pennsylvanians, the great majority of them being children. Those services, provided at the treatment centers conducted by the local societies affiliated with the State organization, have brought a great measure of happiness and usefulness to the handicapped. Their needs have been generously and scientifically cared for and the handicapped have been made to feel that they can develop a capacity for usefulness.

The annual Easter Seal appeal for funds, primarily through the sale of Easter Seals, begins in Pennsylvania March 10 and ends April 10. These seals will be placed in the hands of thousands upon thousands of Pennsylvanians and the revenue derived from them will permit the program of rehabilitation of the handicapped to go forward for another year. "The demands of the handicapped, says Joel B. Davis, Jr., president of the Easter Seal Society, "are growing each year and the services of the crippled children's societies must be extended. It will be extended", he continues, "in proportion to the way the people respond to the call for funds."

Thousands of handicapped fishermen throughout the nation are actively and successfully engaging in fishing. They offer both challenge and inspiration to every fishing enthusiast. This is especially true since they have overcome just about every disability imaginable and are today among our outstanding fishermen. How do they do it—their methods and success will surprise and enlighten you.

An armless Texas man, for instance, has accomplished amazing fishing feats by letting his feet do the work ordinarily done by his hands. He has also made remarkable use of two special hook-like gadgets. The special working hooks are attached to his rod far enough up so that he can give a good yank whenever he gets a bite. The end of the pole is securely anchored under one knee. When a fish is caught, he can jiggle the rod until one of the special hooks opens, thus releasing snared fish into his basket.

The baiting of the hook is an even cleverer operation. He uses one special hook as a vise to hold the regular fish hook in place, then with the other special hook he can thread the bait onto the fish hook.

Special "gadgets" like this one have of course become a necessity with most seriously handicapped fishermen. Fishing equipment manufacturers have not been slow in fulfilling this need. They have come up with everything from special clamps, especially useful for fishing from wheelchairs, which attach the rod to a person's body and make the steady holding of a rod much easier, to developing a new kind of rod and reel for use by blind fishermen.

In the last instance small silk inserts have been placed on the line each one at ten foot intervals. A sighted partner stands by to give the blind fisherman his directions and to tell him the distance for casting. By listening carefully to the clicks of the inserts as they pass up the rod the sightless sportsman can hit the right fishing point with great accuracy.

A number of state governments have begun to take a special and important interest in the plight of disabled fishermen. In New York State a model law is in effect which grants to patients at veterans facilities, tuberculosis hospitals, and veterans rest camps the use of the state's fishing points without the need for a license.

Other states have issued free licenses to disabled persons, and have otherwise aided such people.

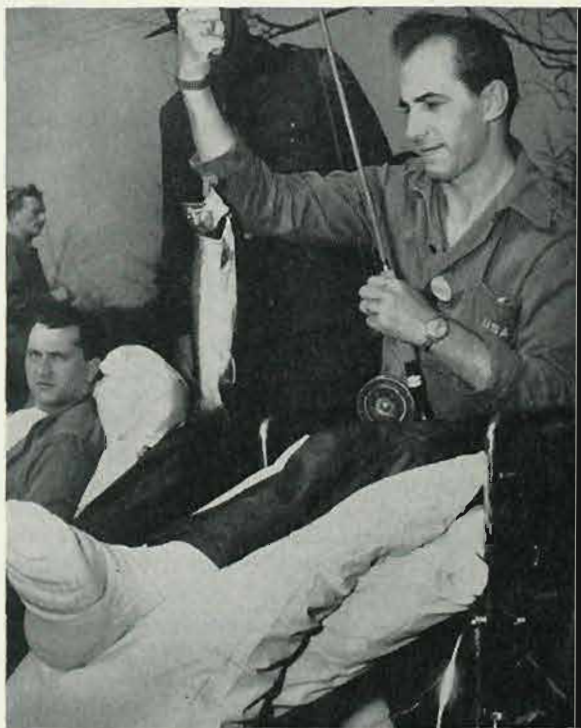
A short while ago the Connecticut State Board of Fisheries and Game completed a project which has been hailed as an outstanding advancement for disabled fishermen. A series of special ramps and platforms were constructed along the 1,500 foot stretch of the Blackledge River at Marlborough, Connecticut. During each fishing season sportsmen in wheelchairs congest the area, making grateful use of the convenient ramps and platforms built for them. This project has proven so successful that the Board is now at work on plans to establish similar facilities in the western part of the state.

Added to these state government endeavors is the equally meaningly work being done by federal agencies, civic groups, charitable organizations, labor unions and the like to aid and encourage "wheelchair fishing."

In the forefront of this work is the Veterans Administration, often in cooperation with the American Red Cross. Fishing participation programs have been established at many of the veterans hospitals dotting the country. As the manager of one hospital states, "The medical staff considers fishing to be excellent recreation for patients!"

The results of these programs have often been phenomenal. On an opening day of the fishing season at Grand Junction, Colorado, V. A. Hospital, the disabled patients taking part in the hospital's program emptied the nearby lake of 171 rainbow trout. At other V. A. hospitals, notably the one at Murfreesboro, Tenn., fishing instruction classes have been established and enthusiastically received by the patients.

At Palo Alto, California, V. A. Hospital a patient's entire physiological attitude was radically changed for the better because of the hospital's fishing program. Moody and despondent because of his disability, the



man had for many months refused to speak to anyone at the hospital. One day he was invited to join some of the other patients on a fishing trip. Half-heartedly and after considerable coaxing he accepted. However, once aboard the fishing boat a decided change was noticed in this man's behavior. He watched the activity with eager eyes. Midway in the day, he observed another patient frantically trying to bait his hook. Cautiously he approached the other patient. "You're doing that wrong," he said in a friendly tone, "Here, let me show you how to do it." It developed that the man had been an excellent fisherman. Coming back to the sport was just the tonic he needed. The trip served as the opening wedge to break his long silence. Soon he was deeply engrossed in conversation and fun-making with the other patients. From that day on his health improved rapidly and he was soon able to return to normal life again.

The 52 Association, a nation-wide group dedicated to enriching the life of wounded veterans, has likewise enlisted its facilities for the encouragement of "fishing for the handicapped."

Their New York Chapter, taking the lead for the nation, supervises the running of weekly fishing trips. From 25 to 30 disabled patients from nearby hospitals participate in these programs. To date 3500 disabled

persons have been fashioned into accomplished sportsmen through 52 Association efforts.

From their experience in this field, the Association has set down these basic measures as a guide to any person or group desiring to integrate handicapped people in any of their fishing trips.

1. Take all necessary safety precautions.
2. Don't overload the boat.
3. Don't press or otherwise unnecessarily trouble the captain.
4. Provide a covered area for blind fishermen in order to avoid the harmful effects of the sun on them
5. Provide the regular and special fishing gear for them.
6. Also provide foul weather gear for them.

All of the groups participating in these country-wide programs for handicapped fishermen are convinced that fishing is an excellent sport, both from a recreational and healthful standpoint, for a disabled person to take part in. Their experiences have also shown that the disabled can rival and in a number of instances even top the success of the unhandicapped fishermen.

A short time ago, a man, taking part in a 52 Association fishing trip, bagged 41 flounders. This man, incidentally, was totally blind!

Trimming a few whiskers

By HANK ROSEN

FOR catching catfish there are many methods and usually the best way is the one that produces best in that locality. I have seen cattys caught on plug, spinning and fly rods. I've even had them hit a plug while casting for bass. In the south, salt water tackle is used on the big blue-cats and on many occasions I have seen big cats brought in at Conowingo by heavy tackle men.

However, generally speaking, the same tackle may be used for catfishing as is used for taking other species of fresh water fish. A line of 12-18 pounds test is preferred to smartly break away from snags when caught on the bottom. This will be discussed at further length under "Rigging".

BAITS

Under this general heading could be listed many different products and concoctions which will catch fish at given times. Some of these are commercially

marketed and have been used with good success. However, Mr. Whiskers is not so high-class, as to insist upon the manufactured article. Here are some baits which may easily be made or obtained at virtually no cost. The first is the much loved (by cats) though foul smelling "ripe" chicken entrails. A popular version of this bait goes as follows:

Place the entrails of two chickens in a quart jar (wide mouth type) to these add 4 or 5 tablespoons of salt, three ounces of vinegar (many prefer cider) and about the same amount of water. Close not too tightly and place in the hot sun for several days. After this has cured sufficiently, you will know it by the odor when opened. If it has not become really odoriferous, place it back for more of the same treatment. If the weather is such that there is not sufficient heat outdoors, as in the winter, placing it near the heater or a radiator will be an adequate substitute.

When thoroughly cured, it may be closed tightly and placed in a refrigerator and used as needed.

Another home-made bait which works well is the blood type bait. This bait, while good, is often best made outdoors in the summer. Its smell will keep it out of your wife's kitchen (at least it does mine). The ingredients are easy to obtain. Get about one pint of liver blood from your butcher (ask him to save it) and one cup of corn meal. Place the meal in some netting (your wife's old nylon stocking is fine), then place into boiling water as you would in making a dough bait. When the meal begins to get firm, take it out of the water and knead one half of the blood into it. After adding the blood break the bait into pieces about the size of a quarter, drop these into just enough boiling water to cover (about 2 inches) the dough. When the pieces have hardened to the consistency of rubber, take them out, place them in a jar, and then pour the remaining blood over these dough balls. Cure these in the sun for several days and use as needed.

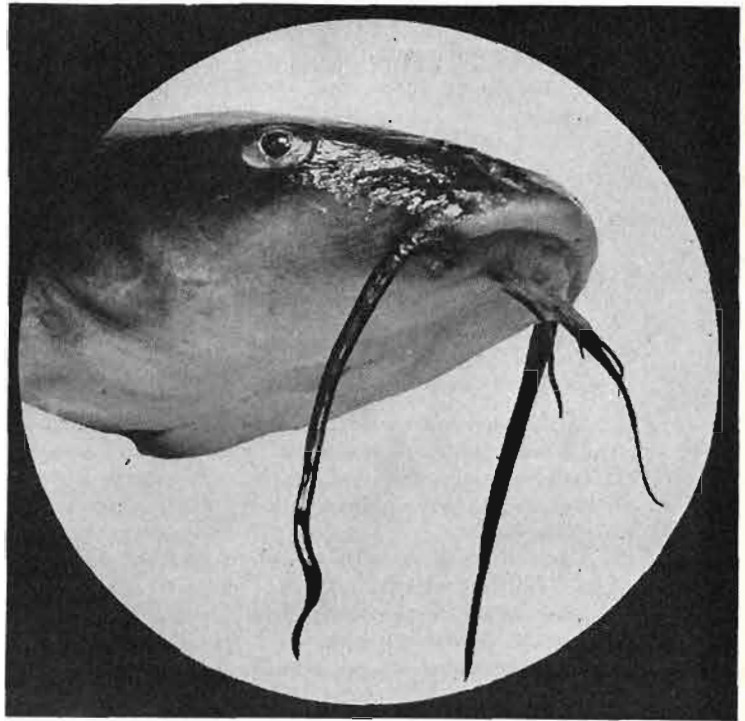
While the two aforementioned bait-types are most effective, all too often the casual Cat-Fisherman does not want to be bothered by having to prepare his bait well in advance. For these men fortunately there is a host of baits available. These baits are widely used and very productive. Pieces of fresh peeled shrimp about the size of a finger joint are praised most highly by lower Schuylkill River fishermen. Any kind of fresh red meat can be employed, although diced-up pieces of fresh red liver rank highest here. The worm fisherman doesn't have to feel slighted though, because the catfish will accept the garden hackle with much gusto.

In the final analysis, we see that the cat fish is not too choosy about his food; he'll eat many things scorned by most other fish, from dough balls to liver-wurst and help keep the bottom clean at the same time.

HOW, WHEN AND WHERE

Our common bull-head, be he white, black, brown or yellow, is primarily a bottom feeder and as such, plays an important role in keeping our water clean. He acts as a scavenger, spending a great deal of time nosing about the bottom in search of adequate food. He is most at home over a soft type of bottom where he can obtain the food he needs from a soft bottom, whether composed of mud, mulch, or rubble. He loves the quiet water of lakes, the slow moving back water areas of streams and rivers, where he can quietly go his way. Most fishermen swear the hours of darkness are best for Cats. However, while the night hours are productive, I have caught as many in the daytime. The catching of many catfish at night then throwing them away the next day because the neighbor doesn't want them is the worst kind of poor sportsmanship and is robbing both nature and oneself of future pleasure. Summer time, seems to be the only time when more men fish at night for them than in day. Possibly because it's cooler at night, more pleasant to fish.

Catfishing is bottom fishing and as such calls for a bottom fishing technique. The bait is cast out towards a suitable spot and allowed to remain there. A signal is usually given the fisherman by the catfish in the form of light taps. These are best recognized by a slight jumping or tightening of the line. A useful aid



in recognizing bites is the use of a Bite Clip.

A point to remember is not to be too quick in setting your hook. The catfish usually nudges the bait several times before mouthing it and then swallowing it. For that reason many men feel they have no success in cat-fishing because they feel the bite. Actually they didn't feel a bite, but merely the preliminary.

RIGGINGS

The terminal rigging for cat-fishing may be plain or fancy, but there are several points to remember.

1. Catfish have large mouths, so any hook 1/0 or smaller may be used, although many men prefer sizes 2-4 and 6 with a slightly turned out back.

2. Since the lead sinker can foul on the bottom easily, two things can be done to lessen this:

a. Use a snagless type slat sinker.

b. Attach the weight to the line by using a short length of line or lead or with a weaker test than the actual line itself.

3. The line should be passed through the eye of the sinker rather than directly to it, unless using the off-key rigging. This allows the fish to mouth the weight of the sinker.

Yes, the Cat-fish is a pain in the neck to those who don't know him, and a pain in the hand to those who handle him incorrectly, but as for me and all of us who intently fish for him, we like Mr. Whiskers!

If we cannot live our philosophy of conservation that others will notice it with favor and want to try it themselves, then there is little use in our preaching it. . . .

—GWF

putting **P**ennsylvania on the **M**ap

By **DR. RICHMOND E. MYERS**

Dean, Moravian College, Bethlehem, Pennsylvania

ALL sportsmen use maps. Few realize how ancient maps really are. Man has always been making maps. Today several million dollars worth are published every year, to be sold or given away to a hungry map-conscious public.

Actually man made maps before he learned the art of writing an alphabet. The world's oldest known map (now in the Semitic Museum at Harvard University) is on a clay tablet which was excavated by a Harvard expedition about 200 miles north of the site of ancient Babylon. It is believed to be 4500 years old.

That, however, is a long cry from Pennsylvania. As far as the New World itself is concerned, the first true American map is that made by a Boston printer in 1677. He drew, carved, printed and published this map (of New England) as a crude woodcut, but just the same, a very authentic bit of Americana.

Of course charts and maps of America had been made by European explorers and soldiers before this date, but these were American in subject matter only, having been engraved and printed abroad. Still, it is to such maps that we must turn to have a look at the first cartography concerning Pennsylvania.

In 1569 the famous world map by Gerard Kramer, better known as Mercator, showed the Pennsylvania Appalachian Mountains under the name of "Apalchen." This was the first time these mountains were indicated on any map, and given a label that resembles their present name. At least by the mid 16th century, a major physical feature of what is now Pennsylvania was on the map.

The first map delineating any specific area of Pennsylvania was published in Stockholm in 1654. It was the work of Peter Lindstrom, an engineer who had come to New Sweden and undertaken to make a map of the colony. His map showed unusual detail along the lower Delaware River and its tributaries. His calculations of latitude were correct, but his longitude was inaccurate, a common fault among early map-makers.

When William Penn acquired Pennsylvania, he naturally was interested in having his colony mapped. His first surveyor general, Thomas Holme, undertook that assignment, and produced two maps, one of Philadelphia in 1683, and the other of the province in 1687. These maps were made in part for promotional purposes, because Holme had more than a surveyor's interest in the land. He was an original land-owner, a member of the first assembly, and a very active fellow in political affairs. His maps are of more value in showing land avail-

able for purchase than anything else, but we must remember that was their purpose, and they were splendid instruments in the land office.

Undoubtedly the name of one man stands out above all others as the top cartographer of colonial Pennsylvania, if not colonial British America. This was Louis Evans, referred to by Peter Kalm in his "Travels" as, "that ingenious engineer." Evans came to this country from Wales at an early age, and made a map of the region involved in the Walking Purchase the year after that hoax was perpetrated. This was in 1738. It was the first of a number of cartographic masterpieces produced by this man who knew the country he depicted intimately, not only as a geographer, but also as an interested all-round scientific observer.

He is best known for his map of "The Middle British Colonies of North America," dated 1755, accompanying which was a 32-page pamphlet titled "An Analysis of a General Map of the Middle British Colonies." This treatise listed his sources and contained a detailed account of the geography, history, and even geology of the area.

Evans was in a sense truly Pennsylvania's first cartographer for although not a native, he grew up in the colony and knew it well from his personal experience. His maps are covered with much data in the form of text material, and one can well spend an evening enjoying any one of them.

Two men by the name of Scull now enter the picture. N. Scull, surveyor general from 1748-1761, published his "Map of the Improved Part of Pennsylvania" in 1759. His grandson, W. Scull, improved on this map in 1770. Both the Scull maps are more accurate and show the frontier country in more detail than Evans, but they lack the interesting text.

Although not considered a colonial cartographer, Reading Howell's work must be mentioned. His splendid map of the state, dedicated to Governor Mifflin, is the first which shows all the boundary lines as we know them today. It was dated 1792, and might be considered the first official map of Pennsylvania, the commonwealth rather than the colony. Its depiction of the streams of the state is remarkable. When one considers the difficulties encountered by these early map makers in covering the territory they mapped, the immensity of their work becomes obvious. Cartographers had to get around on horseback or on foot. Often there were no roads to follow, but mountains and thick forests apparently were no obstacles. Howell's map

does such a splendid job in locating the streams and rivers, that the only improvement in today's maps is that of additional data. It is interesting to note that at the time this map was issued, there were only 21 counties in Pennsylvania.

Many other maps of Pennsylvania have followed. Today we can secure excellent examples of cartographic art in any gasoline station for the asking. It is a long cry from the work of Lewis Evans to the quadrangles of the U. S. Geological Survey that are, or should be, familiar to all sportsmen. There are still no better maps of the back country available to the general public than these topographic sheets which now cover the state, and which are continually in the process of revision. A fine description of these maps appeared in the November, 1955 issue of the PENNSYLVANIA ANGLER.

As to the old maps, we have not presented a complete list by any means. There were those of the French map makers whose sphere of interest lay west of the Alleghenies. There were several maps made by cartographers in Virginia, Maryland, or other colonies, whose work carried them over the line into Pennsylvania. Those we mentioned we can truly claim for our own. If you are interested in seeing their work, the Historical Society of Pennsylvania in Philadelphia, has the original maps on file. Excellent copies of most of these maps were published with the Pennsylvania Archives and if you are lucky, you may pick up a second hand copy of one of these life sized copies in a second hand book store. They can be mounted or framed, and make excellent decorations for any library, den, or sportsman's room.

Keeping earth-worms for bait

A RECENT bulletin of the U. S. Fish and Wildlife Service contains some useful information on keeping and raising angleworms for bait.

For raising worms outdoors, the Service advises the use of wooden boxes, 14 by 18 by 6 inches, stacked together but held apart by small blocks. This arrangement in tiers provides ventilation, drainage and easy access for watering. The boxes should be supported above the ground on a base about 6 inches high. When a box is set flat on the ground the wood rots and worms may escape and burrow into the ground.

Material for filling the boxes may be one part stable manure, one part screened topsoil and one part peat moss. A sprinkling of corn meal or mash may be added. If mash is used, the proportion should be about $\frac{1}{2}$ to 1 pound for each cubic foot of filler material. If corn meal is used, about $\frac{1}{2}$ -pound for each cubic foot of material is sufficient. The mash or corn meal provides a ration of carbohydrates, proteins and fats for the worms so that they will be well-nourished. In order that the mash or corn meal can be uniformly distributed, it should be added before the other material has been wet.

A layer of alfalfa or other hay should be placed in the bottom of each culture box. This improves drainage, prevents the compost from adhering to the bottom of the box and is favored by the earthworms as food. Each box should be about $\frac{2}{3}$ full of the prepared culture material. Five hundred breeder worms should be placed in each box and covered lightly with the culture material. One or two thicknesses of well-soaked burlap should then be placed in the box to conserve moisture and keep the surface of the material dark and damp. The worms should be watered once or twice a week, the time depending on the weather and temperature. In watering, a gentle sprinkling is necessary so that the surface of the culture material will not be disturbed. The food supply in the box should be checked from time to time. This is done by lifting out and examining a handful of soil. A satisfactory food for supplementary feeding consists of five pounds

of commercial rabbit food (pellets), one pound of soybean meal and one pound of sugar. The pellets, meal and sugar should be moistened to form a soft, crumbly mass, then stirred into the culture material. The worms will also thrive on foods such as kitchen and garden waste, fruits and vegetables.

Basement Wormery

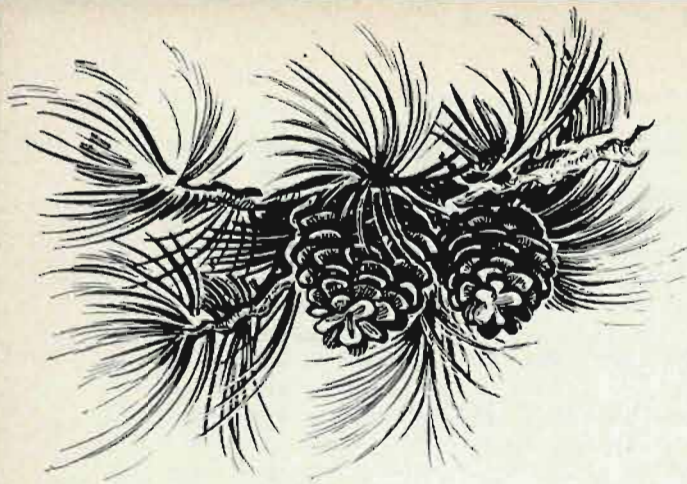
For raising angleworms indoors, a wooden box about 3 feet long, $2\frac{1}{2}$ feet wide and $1\frac{1}{2}$ feet high is recommended. Remember to seal the seams of the container so that the worms cannot escape. The top of the box should be fitted with a frame covered with hardware cloth. Having the frame hinged to the box and fastened with a small screen-door hook makes a very convenient setup. Several small holes should be drilled in some part of the bottom of the box for drainage. The holes should be covered with fine-mesh copper screen that is tacked to the container. If the worm box is in such a place so that it cannot be drained, place small cans under these holes to catch water. If the culture material has excessive moisture that cannot be drained it may sour and kill the worms.

The preparation of indoor cultures is the same as for outdoor boxes. The same feeding and watering procedures also apply.

About 21 days after stocking the worms may be ready for harvest. Dump contents of culture box on smooth table and rake material into cone-shaped pile. Give the worms a few minutes to work down into the pile and then begin raking material from the tip of the pile and replacing in box. This is the material that will have a lot of egg capsules and should be placed in a newly prepared box.

Culture boxes should be kept fairly dark, as earthworms work in darkness. Boxes should be moist but not soggy.

When worms are being used on the lake or riverbank, try carrying them in a small cloth sack filled with sphagnum moss. Dampen sack whenever necessary.



Conservation

Fish Commission Has New Land Acquisition Policy

The Pennsylvania Fish Commission has established a policy that in acquiring lands for the construction of new public fishing waters, every effort is to be made to avoid the purchase of fertile agricultural acreage.

In announcing the policy, Executive Director William Voigt, Jr., said:

"The Commission felt this new policy was in keeping with sound modern natural resource conservation thinking.

"It is true that this country still is in an era of agricultural surpluses, but the lakes to be built are expected to last for many decades, and no one seems able to guarantee that surpluses will be with us indefinitely. Therefore, it appears to make good sense to believe that fertile farm lands should be avoided so far as possible, and attention concentrated on seeking areas of low agricultural, and forest, fertility.

"The Commission likewise wishes to center its future lake building efforts as much as possible in depressed areas, and in areas where the local people have the least present public fishing opportunity.

"In seeking sites for a backlog of future construction operations, the Commission looks for specific things of importance in the program. Sites should be free of present pollution. Mineral titles should be clear, to assure there will be no future pollution threat from mine or other wastes. The watershed should be under such good conservation management that siltation of the lakes, from unnecessary erosion, will be at a minimum. In addition, there should be relatively little disturbance of existing community utilities and facilities, such as roads, transmission lines of various kinds, churches, cemeteries, and so on."

At its meeting in January, the Commission approved the construction of two new public fishing lakes, at the Dutch Fork site in Washington county, and at Lower Woods Pond, in Wayne county. The latter will be an enlargement of an existing lake.

The statement said further that the Commission will ask in all cases that supervisors of townships involved, and other authorities and civic leaders, assure that the areas immediately surrounding new fishing lakes be properly zoned to guarantee there will be no undesirable developments tending to reduce the usefulness of the lakes for healthful outdoor recreation by family groups.

"Guide to Horse-shoe Trail" Now Available

If on an outdoors jaunt in southeastern Pennsylvania you spot a yellow horseshoe or a yellow paint blaze on tree, post, rock or stake, you are on or crossing "Horse-Shoe Trail"—a 116-mile, high-ridge hiking or riding route between Valley Forge and Rattling Run Gap.

The trail is completely documented and mapped in a "Guide to Horseshoe Trail," which calls particular attention to numerous way-points of historic interest. The publication also includes listings of accommodations along the trail's meandering course through five counties—Chester, Berks, Lebanon, Lancaster and Dauphin. And those accommodations are for man or beast, depending upon whether the travelers are on horseback or afoot.

The "Trail", in total or in part, is both a challenge and opportunity to anyone with a bent for an unspoiled outdoors. The "Guide" is made available by the Horse-Shoe Trail Club, Inc., Ardmore, Pa. Price—Seventy-five cents.

Top Fish Commission Officials to Speak at POWA Spring Banquet

William Voigt, Jr., executive director of the Pennsylvania Fish Commission, and Dr. Albert S. Hazzard, assistant executive director, will be the speakers at the Spring Banquet of the Pennsylvania Outdoor Writers Association on March 24 to be held this year at the Officers Club, New Cumberland Depot. They have suggested a question session so that writers, radio and TV men vitally concerned with conservation problems can propose questions to the speakers. Tom Darlington, Bob Reed and Tom Forbes are in charge of arrangements for the dinner.

Koozer Lake Open to Bait Fishing in '56

The Pennsylvania Fish Commission has announced that contrary to an earlier report, Koozer Lake in Somerset County will be open to bait as well as artificial lure fishermen this year, but that the creel limit would be two trout per day instead of the statewide limit of eight.

After the 1955 fall spawning season, a number of large trout, previously used as brood stock in a Commission hatchery, were planted in the Lake. And since Koozer is a small body of water, it was felt the creel limit should be kept low this year to spread the fishing among a greater number of anglers and over an extended portion of the season.

The Commission explained that Koozer Lake previously had been incorrectly listed among state waters, which this year are planned for fly fishing only.

In Pennsylvania

First Fork Dam Near Sinnemahoning Completed

The huge First Fork Dam, located near Sinnemahoning, in north-central Pennsylvania, is now completed. Secretary Maurice K. Goddard, Pennsylvania Department of Forests and Waters, announced today that engineers have been assigned to commence an extended series of tests, preparatory to the initiation of full usage of the dam.

Rising to a maximum height of 164 feet, the dam is 1,420 feet in length. The Flood Control Division of the Department of Forests and Waters revealed that the newly created lake will have a capacity of 24.5 billion gallons of water and cover over 1500 acres. Commenting on the values inherent in this project, Secretary Goddard said, "The flood protection afforded by impounding billions of gallons of excess water during periods of excess moisture, will also provide recreational facilities."

During the testing period, the reservoir will be filled to a pool level of 965 feet above mean sea level. It is planned to test the gate mechanism when the 965 foot level is reached, which will gradually reduce the level to the normal reservoir elevation of 920 feet above sea level. Mr. Bernard D. Murphy, Chief Engineer of the Forests and Waters Department, estimates that 30 continuous hours of operation will be required to accomplish the reduction. During the time necessary to bring the level up to testing height, a flow of 36 cubic feet per second will be maintained in order to support fish life in the lower stream area. Murphy announced that the Superintendent of First Fork Dam will be Mr. Raymond Azzato, who will reside at the Dam with his family upon completion of the home currently being built by the State.

Drainage area served by First Fork Dam is computed as two hundred forty three (243) square miles. The "run-off" from this extensive area will now be checked during periods of heavy rain and thaw by the newly formed reservoir. Much of the flood threat will be averted and an adequate water supply will be stored for regulated release.

Total cost of construction to date has been \$9,206,014. Additional building expenditures will amount to approximately \$50,000. Secretary Goddard emphasized the invaluable facilities to be provided by First Fork Dam to the general public, such as boating, bathing, and fishing. "In addition," Goddard said, "we cannot put a price tag on the worth of expanding flood control protection as needed by the Commonwealth. Protection against disastrous flood damage is a necessity. First Fork Dam adequately meets these needs, and will repay its cost many times over to the people of Pennsylvania."



C. Robert Glover

Bob Glover Heads Commission's Conservation Education Staff

The Pennsylvania Fish Commission has appointed C. Robert Glover of Allentown, 42-year-old news, radio-TV, magazine and advertising specialist, to head its public relations-conservation education staff.

The announcement was made by William Voigt, Jr., executive director, who said:

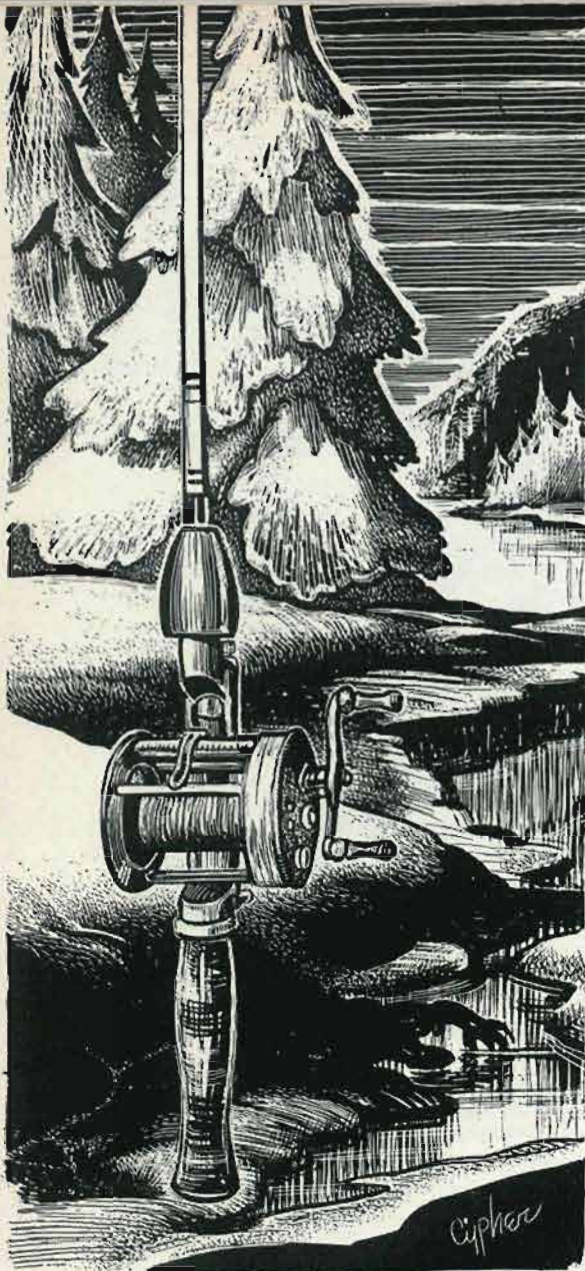
"In addition to many years of well-rounded public information experience, Bob Glover has long been deeply interested in recreational resource conservation and management. We feel this gives him unusually good qualifications to handle this phase of Commission activity.

"Glover comes to us from his own advertising-public relations company. He has been writing and broadcasting news of the outdoors since 1937. He is a long-time member of The Outdoor Writers Association of America, and has been active for years in sportsmen's clubs and conservation organizations.

"Because of the specialized nature of the Commission's activities, we feel Glover's experience will help us report accurately to the public of Pennsylvania what the Commission is doing in the interests of improving public fishing opportunity, and why we are doing it.

"J. Allen Barrett will continue in the public relations division as assistant chief, with primary responsibilities in the field of conservation education."

In addition to handling press and radio information, Glover will supervise publication of THE PENNSYLVANIA ANGLER, and the preparation of motion pictures, film slide programs, and displays for public exhibition purposes, the statement said.



National Wildlife Week 1956 Scheduled for Week March 18-24

The National Wildlife Federation has listed eight ways the average citizen can help save the kinds of wildlife that are in danger of becoming extinct.

"Save Endangered Wildlife" is the theme of National Wildlife Week, now being observed under the sponsorship of the Federation and its member state associations and local clubs throughout the country. Sponsoring organization in this state is the Pennsylvania Federation of Sportsmen's Clubs.

Mr. Seth L. Myers of Sharon, state Wildlife Week chairman, said every person can help by joining a conservation club or simply by exercising his rights as a citizen. Among these rights, he explained, is the American privilege of expressing ones opinion to legislators and public officials.

Those kinds of wildlife that are about to pass from the scene are getting special attention this year.

Literature published by the National Wildlife Fed-

Conservation

eration lists many of these endangered forms: sea otter, lake sturgeon, lake trout, trumpeter swan, Everglade kite, Eskimo curlew, grayling, California condor, prairie chicken, bighorn sheep, whooping crane, grizzly bear, ivory-billed woodpecker, Key deer, Tule elk, black-footed ferret, kit fox, woodland caribou, gray wolf, red wolf, manatee, Caribbean monk seal, Mississippi kite, swallow-tailed kite, white-tailed kite, roseate spoonbill, Hudsonian godwit, Florida sandhill crane, Laysan teal, nene, Aleutian tern, Florida burrowing owl, Peregrine falcon, red-bellied hawk, Kirtland's warbler, Cape Sable seaside sparrow, Great Lakes whitefish, American crocodile and green turtle.

State Chairman Myers has pointed out that many other kinds of wildlife, while not endangered in the nation as a whole, have been wiped out in some states and are threatened in others.

Here are the recommended "eight courses of action":

1. Promote research to find ways of restoring the endangered species.
2. Encourage the programs of federal and state conservation agencies. Support the game and fish laws.
3. Work for laws that coordinate wildlife management in flood control, reclamation, river development and agricultural programs.
4. Stop the destruction of wildlife habitat that is caused by soil erosion, over-grazing, burning and other forms of land abuse. Oppose the unwise drainage of swamps and marshes.
5. Start local education campaigns to create public awareness of wildlife problems.
6. Help safeguard the national and state parks, forests, sanctuaries and other areas that have been established to preserve the wilderness and its wildlife.
7. Work for effective water pollution control.
8. Support the efforts of the Survival Service of the International Union for the Protection of Nature. This organization, with headquarters in Brussels, Belgium, works to save endangered wildlife throughout the world.

New Yearbook Out on Improving Valuable Water Resources

The 1955 Yearbook of Agriculture entitled, "WATER," devotes 752 pages to this important subject, and this handsome volume is an excellent reference book and a worthy addition to any home library shelf.

Although primarily devoted to the farmer's and rancher's water problems it also has many chapters of interest to city and urban dwellers, sportsmen, industrialists, foresters and gardeners.

Each of the 95 chapters is written in non-technical style by a specialist in his particular field. Since each one of us uses vast quantities of water, either directly

Across the Nation

or indirectly, in his daily living at least some portion of this informative book will prove of value to everyone.

The 95 chapters are arranged under the following main headings: Our Need For Water; Where We Get Our Water; Water and Our Soil; Caring for Our Watersheds; Water and Our Forests; Water for Irrigation; Water and Our Crops; Our Range and Pasture; Gardens, Turf and Orchards; Drainage of Fields; Water and Our Wildlife; Pure Water for Farms and Cities; and A Look to the Future.

The information this Yearbook contains about water is not just for today. All things, including weather and rainfall change fast, and our memories are short. When it rains, we forget about the dust bowl; when it is dry, we forget about the floods.

So accustomed are we to filling all of our water needs by simply turning on the faucets in our homes that it is difficult to realize the plight millions of people in Asia Minor, India, Africa and South America face in just satisfying their minimum needs of 3 to 5 gallons per person a day.

This book on water reminds us that; "In Madagascar, women carry water home in jars on their heads across miles of hot sands. In one rural community in southeastern Asia the women have to walk 9 miles to the nearest water supply, and bring the water back in buckets. Since one wife can make only one trip a day with her bucket, and this is not enough for the needs of the family, men find it necessary to have several wives just in order to keep the household supplied with water."

But scarcity of water, in many parts of the world, is often less a problem than too much water in the form of floods. Although few of us in this area have experienced the ravages of floods all of us are becoming increasingly aware of the flood menace in the United States, from New England to California, as we read about the terrible destruction of life and property that occurred within the past year in both New England and Northern California. The new Yearbook of Agriculture has much to say about floods, and a program to alleviate them.

Maps, drawings and photographs in profusion add to the interest of the text in this Yearbook devoted to "WATER."

Anyone interested in this vital resource, water, can purchase the Yearbook of Agriculture, 1955, by writing to the Superintendent of Documents, Washington 25, D. C.

Learning the Hard Way

Madison, Wis.—Five Milwaukee high school boys learned about conservation the hard way.

Smoking while hunting in Jefferson County they set a marsh on fire which was brought under control by the Johnson Creek fire department. They were found

to have violated a number of conservation laws and Conservation Warden, Willard Laesch, handled the cases under the conservation lenient department rules for dealing with juvenile violators.

The parents of the boys paid the cost of suppressing the fire, \$71, and at this writing the boys were still at work trying to put out a fire still smouldering in the peat. They were put to work at the suggestion of the parents.

Lake Property Given to North American Wildlife Foundation

A large man-made lake near Canonsburg, Pennsylvania, has been presented to the North American Wildlife Foundation by the Pennsylvania Transformer Company, a division of the McGraw Electric Company of Chicago.

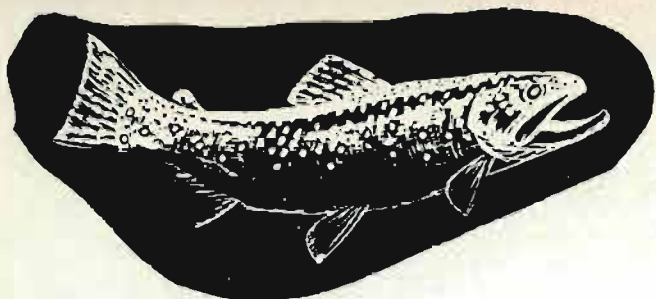
According to Pennsylvania Transformer officials, the lake is fed from a drainage area of about 45 square miles, and only by fresh water streams that are completely free of industrial waste and other forms of contamination. The property, which is near U. S. Route 19 about halfway between Pittsburgh and Washington, Pennsylvania, is valued at about \$750,000.

Fishing and boating facilities, bird sanctuaries, and research projects by various state schools and universities are planned. Actual development of the tract will be done largely by the State of Pennsylvania, and all recreational facilities will be open to the public.

Increase for National Forest Recreation Areas

The Forest Service budget includes an increase of \$470,000 for "sanitation and care of public campgrounds" in the National Forests. This item got a timely although inadequate increase of \$700,000 last year, bringing the 1955-56 total for public-use areas to \$1,724,500, counting in the pro-rated share of the pay-raise voted by Congress last year for all federal employees.

But the Budget Bureau and the Administration continue to exhibit a blind spot when it comes to wildlife resources in the National Forests. Although more than 11 million sportsmen went hunting and fishing in the 180 million acres of National Forests last year, and although these federal lands provide homes for one-third of the nation's big game, not to mention small game, 81,000 miles of fishing streams and 2¼ million acres of lakes and reservoirs, no increase was budgeted, or voted, last year for management and improvement of wildlife habitat. No increase has been budgeted for wildlife next year. This item remains at the absurdly-low figure of \$230,000, counting in \$20,000 added because of the pay-raise Act.



Fish Wardens—Men of All Around Outdoor Activities

A look at a consolidated report of activities of the wardens of the Pennsylvania Fish Commission in 1955 seems to knock into a cocked hat the old idea that the warden is just an outdoor policeman.

The report discloses that the 51 district wardens and the six division supervisors made 26,936 separate trips in the performance of their varied duties in the calendar year. These 57 field employes worked a grand total of 155,562 hours, which adds up to an average of 54.58 hours a week on the basis of a 50-week work year.

Total mileage traveled was not included, but the report indicated 12,070 trips, or 44.8 per cent of all trips, were undertaken in the course of stream patrol and law enforcement, and that this consumed 73,086 hours, or 47 per cent of their working time.

Some 2,461 trips were made to help stock fish in Pennsylvania's open waters, and these consumed 10,974 man-hours. Other activities shown in the report included:

1,366 meetings (sportsmen, service clubs, schools, etc.) were attended, the total for which required more than 6,764 hours, while some 2,203 trips were made in assisting and cooperating with the field force of the Pennsylvania Game Commission.

The balance of 8,836 trips involved 121 fish removal missions; 112 stream surveys; 535 pollution investigations; 761 mine drainage inspections; 283 stream channel changes; 222 dam draw downs; 138 farm pond inspections; 132 missions assisting Fish Commission biologists; 110 assisting land and water acquisitions; 69 assists to the Fish Commission construction engineers; 468 investigations of posted property; 10 assists to fish hatchery personnel; 118 trips made in assisting Pennsylvania State Police, etc., and some 3,957 trips on miscellaneous matters necessary to the administration of Pennsylvania's public fishing program.

More Trouble With Gizzard Shad at Erie

Everyone in the vicinity of Erie has various reasons for cursing the gizzard shad for the nuisance they are and the stink they make. Recently the ANGLER reported their jamming up the intake tubes at the local Power company station causing a partial blackout in Erie. Now these blasted fish, migrated into the east and west slips of the public dock, have caused a minnow shortage. Dealers have been going out of business fast while others are forced to get Emerald Shiners shipped in from Michigan. Some dealers have imported types of grubs to supply the demand for bait for ice fishermen. Ice fishermen have further reason to hate the "mooneyes" because they drift in masses into the bay; ice forms around them but does not freeze solidly. The wind blows snow into these patches and fisher-

Notes

men walking about fall through the ice. Five anglers had to be rescued only recently. Like the weather, everybody wants to do something about them but nobody can figure out what!

—Bert Euliana, Fish Warden
Erie county

Ice Fishing Interest Up This Year

More and more Pennsylvania fishermen are taking to ice fishing on streams, lakes, ponds and dams of the commonwealth. The Clear-View Water Company Dam on East Licking Creek, with almost 50 acres of water, carried a thick covering of ice this winter, proved a popular spot for the tip-up artists who are just commencing to take up the sport. While no large fish were taken, one angler did pull a 20-inch pickerel from a hole in the ice.

—C. V. Long, Fish Warden
Juniata and Perry counties

Crows Crossed With Fish Hawks?

When crows start fishing it's news and they didn't have webbed feet either. On two occasions crows were observed gathered around small openings in the ice on Shawnee Lake and it appeared they were busily feeding on something. Given a closer look-see it was revealed that small fish were surfacing in the open water. The crows would snap at them with the speed of a Kingfisher and guzzle them with gusto. Later small minnows and several yellow perch were found around holes in the ice. Things must be getting rough when crows turn fish eaters.

—William E. McIlhenny, Fish Warden
Bedford county

Another "Stock Gate" For Farmer

By Mifflin County Sportsmen

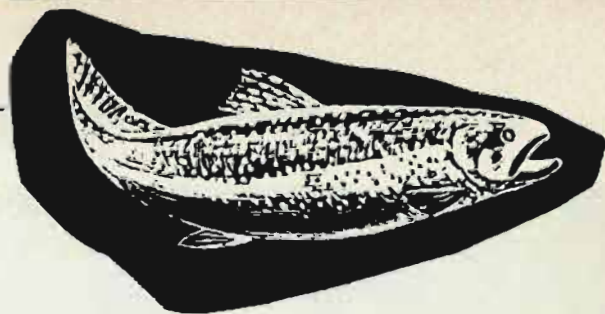
The Mifflin County Sportsmen's Club have decided to erect another "stock gate" on the West Branch of the Kishacoquillas. The gate will be placed in operation on the land of a farmer who has suffered to have cattle wander thru gates left open by thoughtless fishermen. The new gate should relieve him of future worries. Action such as this goes a long way to promote harmony, good order and good will between sportsman and landowner making more miles of fishing water open to the public.

—Richard Owens, Fish Warden
Huntingdon and Mifflin counties

JP Almost Gets Material for Davy Crockett Hat

John H. Hartzell, 84 year-old Justice of the Peace in York county just missed getting something toward a Davy Crockett hat while fishing along the Conewago Creek last fall. He had several bluegills and a few

From the streams



catfish on a stringer nearby. Things became pretty quiet but the stillness of the autumn evening was shattered by a commotion in the vicinity of his stringer. Investigating with his flashlight he was amazed to see a raccoon snatching one of his bluegills. P.S. He didn't get the 'coon the bluegill nor the hat.

—Paul Martin, Jr., Fish Warden
York county

Fewer Post Signs Along the Breeches

While checking the lower end of the Yellow Breeches recently for posted property I was pleased to find there were less posters around than there have been for the past three years. Also, I learned the landowners are pleased with the conduct of the fishermen. Perhaps all the articles carried by the ANGLER urging fishermen to behave themselves has borne good fruit.

—Barry A. Gracey, Fish Warden
Cumberland county

Flitting Day for Fish in P.R.R. Pond

The work of transporting fish from the artificial pond on Pennsylvania railroad property at Hollidaysburg back to their original home in the Frankstown branch of the Juniata river and to ponds in the area was completed recently under the direction of Fish Warden Claude Baughman and George Magargel, superintendent of the Reynoldsdale hatchery, two employees of the hatchery, Albert Debo and Bill Dorman of the Altoona Volunteer Sportsmen's association and several Pennsylvania railroad men loaded a truckful of fish.



Approximately 5,000 carp, suckers, catfish, sunfish and pike were removed in one dip of a 40-foot net. The net was lowered at the only corner of the pond not frozen over. All the fish were congregated in this corner attempting to get air.

The men used smaller nets and tubs to transfer the fish from the large net into the truck from where they were taken and dumped into the Lakemont park dam and into the Ivyside warming pond. About 500 were returned to the Frankstown branch.

Some of the carp measured almost 24 inches and weighed as much as 10 pounds, it was estimated.

The pond was created when construction men needed to fill low ground on the site of the Samuel Rea shops and the reclamation scrap plant and dredged a long, deep hole parallel to the Frankstown branch. Rain filled the opening and spillover from the branch brought in the fish more than two years ago. Now the hole will be filled up and a new home was needed for the fish.

Permission was obtained from the fish commission at Harrisburg to do the job.

Pollution Caused By Spraying Materials

The Sanitary Water Board has issued a warning against any practice that may cause pollution of the streams by spraying materials. A number of complaints are being received from various sections of the State by the Bureau of Sanitary Engineering of the State Health Department, which executes the Clean Streams program, charging killing of fish as a result of spraying materials getting in the streams. Most of the occurrences are said to result from washing the spraying equipment along the bank of a stream and flushing the residue into the waterway.

It is pointed out by the Board that pollution caused by agricultural and horticultural operations violates the Clean Streams law the same as that which is caused by sewage and wastes from industrial establishments and the violator is equally subject to the provisions of that law.

MOVING DAY for some 5000 carp, suckers, catfish, sunfish and pike from the P.R.R. pond at Hollidaysburg. Supervising the flitting are (l-r) Warden Claude Baughman, George Magargel, superintendent Reynoldsdale hatchery and Arthur Way, hatchery employee, all of the Pennsylvania Fish Commission. The Altoona Volunteer Sportsmen's association and several P.R.R. men assisted in loading a truckload of fish.

from Here and There



AWARD WINNERS in Harrisburg Hunter's & Angler's Assoc. Contest: Back row—(L-R) John W. Gruff, Stewart L. Ostot, M. H. Foster, George W. Fordney. Front row—Wm. W. Youart, Gerald Stansfield, Barry Grove and Edward P. Ervin.

Winners in Harrisburg Hunter's & Angler's Association 18th Annual Fishing Contest

Contest chairman, John Bistline of the Harrisburg Hunters and Anglers Association has announced the winners in the club's 18th annual big fish contest. Sponsored to promote sportsmanship, the contest last season had the cooperation of local merchants providing tackle prizes and trophy plaques. Some of the winners received a years subscription to the PENNSYLVANIA ANGLER. Winners are as follows:

First Place Winners

- Edward P. Ervin Brook Trout—17¼"
Camp Hill, Pa.
- William W. Youart Brown Trout—27¾"
Harrisburg, Pa.
- E. R. Stingily Small Mouth Bass—23"
Harrisburg, Pa.
- John W. Gruff Walleyed Pike—27½"
Highspire, Pa.
- James A. Reilly Pickerel—20¾"
Camp Hill, Pa.
- Frank O. Forsyth Rock Bass—10⅝"
Harrisburg, Pa.
- Gerald Stansfield Fall Fish—16½"
Shiremanstown, Pa.
- Barry Grove Sucker—18½"
Bressler, Pa.

- William C. Miller Cat Fish—20"
Harrisburg, Pa.

Second Place Winners

- M. H. Foster Brown Trout—20"
Enola, Pa.
- John C. Miller Small Mouth Bass—22"
Pittsburgh, Pa. Tie
- William R. Myers Small Mouth Bass—22"
New Cumberland, Pa.
- George W. Fordney Walleyed Pike—25½"
Enola, Pa.
- Stewart L. Ostot Rock Bass—10½"
Camp Hill, Pa.

Life Begins at Forty

Nowadays others are sayin' fifty, sixty, even eighty. Point is, through sanitation, disease control, education, and some other things, folks in this country are livin' longer, on the average, than their grandpappies did. That's good.

But the young folks comin' along, want jobs; they want to be climbin' ladders. They don't want old fogies standin' in their way. Not only that, but most mature folks reach the stage where they have a hankerin' to quit work and take life easy some day. That's good.

So what do the old fogies do when they retire? Well, some of 'em just set on their fannies. And too often, the change from high-pressure livin' to just settin' got the best of 'em. They didn't know what to do. They didn't last long. That's bad.

That's where huntin' and fishin' comes in. Not to be killin' things, nor to promote business for the ammunition and tackle manufacturers, but to give folks good clean outdoor recreation. Male or female, young or old—all can enjoy 'em. Furthermore, they develop into first-rate indoor, between-season hobbies.

Take fishin'. A few barnyard feathers, a spool of thread, some hooks, and you're all set for many long evenin's entertainment. All the while you can be reminiscin' of days on the stream, big ones that got away—anticipatin' how this new fly will fool the lunker next season. There's a rod to be rewrapped and varnished, reels to clean and oil, nets to repair, spinners to polish and lacquer—just all kinds of little jobs to keep the hands and mind busy.

Take huntin'. With a few tools, a can of powder, and lead from an old storage battery you can reload your own shells, if you're a'mind to do it. There is no season on paper targets and clay pigeons to test 'em out. And all the things you can make and repair—gun stocks, sights, decoys, tents, cameras, camp outfits, boats,—why there's hardly time to get 'em all in shape for next season.

To my way of thinkin', huntin' and fishin' are ideal sports for kids, for a busy man's recreation, or a retired man's past-time. Let's make sure nobody takes 'em away from us—deliberate or otherwise.

—Outdoor America.

Conservation Club Sets Sportsmen's Show Dates

The Georgetown Conservation Club met at the Georgetown Settlement House recently and made extensive plans for its 5th Annual Sportsmen's Show. The event will be staged at the Georgetown Settlement Gymnasium and will open on Saturday, March 17, the eve of National Wildlife Week, and will continue through Sunday, March 18 and Monday, March 19.

Forest and Wildlife Conservation will be the theme of the show which is the only affair of its kind in this part of the state.

Feature attractions will include a trick and fancy casting exhibition by Stanley Cooper Sr. and Jr. of Plymouth, Pa. The Coopers perform annually at the New York Sportsmen's Show and have given exhibitions at various sportsmen's events throughout the eastern part of the country.

The Al Briese Archery Troupe of Weatherly, Penna., will be back again with breath-taking exhibitions with the bow and arrow.

Entertainment will be provided on Sunday, March 18, by the Curley Herdman Troupe from Ripley, West Virginia, nationally known hillbilly and western entertainers. "Kid Pappé" Papsun, and his wife "Janie," natives of Wilkes-Barre, have been featured with the Herdman troupe for the past 11 years.

The Penna. Game Commission, Penna. Fish Commission and Dept. of Forests and Waters will have displays boosting conservation.

Boat displays, firearms exhibits, fly tying demonstrations, live animal exhibits, sporting goods displays and many other features will round out the event which is gaining recognition throughout the state as the "Wilkes-Barre Sportsmen's Show".

Peter J. Papsun is show chairman, Paul Weiss, Co-chairman, assisted by Brinley Dempsey, Evan Pickett,

How Trout Were Named

BY DAY YEAGER

FOR years Americus Vespucci, in old Italy, studied night and day, learning about navigation. His very life was dedicated to the study of tides, stars, pressures and direction of currents, hoping that someday he would be able to travel thither and yon to better fishing spots. Finally one early spring morning he set sail, his jacket bulging with flies. He landed somewhere near the Indian village of Scratchawetcha, now Baltimore, Maryland, and traversed the mountains into Pennsylvania. Actually this was before Penn owned the woods so there were no posters prohibiting fishing. Americus thought this encouraging so he tramped across the state as far as his little legs could carry him and set up camp on Big Pine Creek, which was known as Little Pine in those days since the trees were all small. Ves cast for weeks without luck and although he waxed his line, his enthusiasm waned. He couldn't help but notice the little barefoot Indian boys trotting by with long strings of fish dragging in the dust.

"How?" he inquired of several of the young braves.

"Wig worm" they replied, but poor Ves knew little of their language, and went on fishing flies.

One day he eventually caught a little brookie and as he brought him to net, his spirits fell. He noticed that his speckled beauty was under-size. Just then an Indian boy stepped out of the bush and voiced his opinion.

"Ugh!"

Ves could contain his disappointment no longer.

"I'm a getta distraught," he answered, disassembling his tackle, tossing the fish on the ground and returning to his boat.

A few days later, the chief missed the Italian explorer.

"Ugh! Where's Vespucci?" he asked.

The little boy who had seen Americus last told his story.

"He's a getta distraught," the boy answered, pulling the fish from his pocket. "Then he left."

"Ugh," the chief exclaimed. "You mean this little fish is a traught. I've often wondered what they were called."

For years the traught fishing was excellent and the Indians were happy.

When Penn arrived, however, he brought with him many pear-shaped tones. Whenever an Indian would say, "I'm a getta dis-traught," Penn would correct him.

"That guy Vespucci surely loused up the English language. Now say after me, how-now-brown-trout. I'm getting this trout. Try it."

The Indians soon learned and several years later when Americus returned with a new jacket full of flies, they waited patiently while he rigged up. On his first cast he caught such a big fish that his six-piece bamboo fly rod was rapidly transformed into a seven-piece job. It was the only rod he had with him. He was so angry, he grabbed the line hand-over-hand, hauled in his prize. He dumped the fish in his creel and exclaimed once more, "I'm a getta distraught."

"No, no," the Indians shouted in unison, "you are getting this trout."

Vespucci thinking the Indians had been eating too many nuts, stormed back to his boat, never to return. Little did he know that his undersize fish was responsible for a name we love and respect.

John Foley, George Zonko, Thomas Lyons, Joseph Beres, Joseph Pekol, Stanley Geffert, Leon Savner, Carl Opet, Joseph Wiernusz and Simon Cichy.

WILL SETTLE FOR PA TROUT!

Dear Editor:

Received your renewal card for renewal of the PENNSYLVANIA ANGLER. Please, by all means, renew it.

Florida has good fishing but for real fishing I'll settle for our cold stream trout any day.

Bill Steindel

Winter Haven, Florida

SURVIVES DELAWARE FLOOD

Dear Editor:

Since my subscription is running out please find a renewal. You boys are putting out a swell magazine and it has become a household necessity. I know because I get many more but I do enjoy your magazine best.

Not only that my interests are tied down to the Delaware and Pike county, but it is a more instructive and interesting paper. Hope you can come through with more articles on this area which is going to be a changed river after the floods of last August. The whole family went thru this on the river road opposite Port Jervis. Best luck and keep coming.

Joe Woolly

Brooklyn, N. Y.

AGIN' CATCHING TROUT AT KOON LAKE

Dear Sir:

Regarding the article on Koon Lake Trout run in the January issue of the ANGLER in which you asked for opinions on loop-hole in fishing laws which permits catching fish out of season provided the fish are returned to the water. I think such a loop-hole in the laws should be plugged.

Even if trout are caught and released some are bound to be injured or killed.

Another thing I would like to see the Commission do, depending, of course, on water levels, is stock trout in the early fall. While this may be impractical in small streams, those carrying plenty of water like the Slippery Rock, Sugar Creek and Wolf Creek would be ideal.

Also, I want to give you a pat on the back for the fine magazine the ANGLER is. I have been subscribing for four years and keep every issue in book form. It sure provides plenty of reading, over and over again with something interesting each time. Keep up the good work.

Russell G. Parker

Grove City, Pa.

FER CATCHING TROUT AT KOON LAKE

Dear Sir,

On page 23 of the January ANGLER there's an item about trout runs in Koon Lake and the people with fly rods who catch and release trout out of season. It would seem the writer of the item thinks the laws

should be changed to stop fishing these trout out of season but how about the trout fishermen at this same lake who catch bass in May and June? Bass hit quite freely at the lake in June.

Last March before the 15th I caught quite a few of those trout on artificial bait. Some of the sucker fishermen, fishing with worms, were very angry because I lifted some fine trout out of the water but I contend these sucker fishermen do more harm to trout with their worm hooks than I do with a spoon. I fish strictly for sport and not meat and I see no reason for preventing the hooking of any fish out of season if the fish is handled with care and returned to the water uninjured.

I cannot see how it is possible to plug any loop holes so long as seasons overlap the way they do at present. Maybe a calendar should be posted at Koon Lake to advise the fish when seasons are closed or open.

Laurence R. Hausele

Mt. Pleasant, Pa.

Dear Editor:

Here's my check for renewing my subscription to the ANGLER for another five years. Your ANGLER is still tops in my reading material.

Thank you especially for the article "Conservation Is Not Enough" which appeared in the January issue. This was one of the finest I've ever read in the magazine. If only the masses of fishermen could be made to understand that the killing of fish is not a necessary consequence of the sport. Too many anglers take fish from a stream which they really do not relish as food and after the fish has been freely displayed for purposes of attesting to their angling prowess it becomes cat food. Action such as this is not only contrary to true sportsmanship but a direct violation of the moral law of nature which is to kill only when food is needed. In these days of plenty I see no need for angling for food alone.

Personally, I have found the utmost angling satisfaction when a fish has provided me with the thrill of the strike, the battle, then returned to the water to repeat the thrill for some other angler. If I wish a record of the fish I'll quickly get a snapshot of it, then gently return it to the stream. The true satisfaction of angling is in the love of nature and not its destruction.

David Smith

Hatfield, Pa.

Education

Education does not mean teaching people what they do not know. It means teaching them to behave as they do not behave. It is not teaching the youth the shapes of letters and the tricks of numbers, and then leaving them to turn their arithmetic to roguery and their literature to lust. It means, on the contrary, training them into the perfect exercise and kingly continence of their bodies and souls. It is a painful, continual and difficult work to be done by kindness, by watching, by warning, by precept, and by praise, but above all—by example.

—John Ruskin

Healthy Watersheds Prevent Floods

"I WILL LIFT UP MINE EYES UNTO THE HILLS," cried the Psalmist, "FROM WHENCE COMETH MY HELP."

More and more people, like David, are becoming uncomfortably aware that our welfare is tied up very closely with what is happening in the surrounding highlands.

Floods are usually caused by a too-rapid run-off. This is encouraged when watersheds are abused. The forests build up a thick layer of dead leaves, under which there is a dense mat of fine roots which anchor trees, shrubs, and herbs.

The rain must first saturate the crown foliage, then the understored foliage, and finally the thick mat of humus. All this retards the run-off so that erosion is stopped and a steady supply of clear, filtered water is fed into forest streams.

The trees of the forest themselves consume huge quantities of water through their roots and this tends to reduce and hold back the amount of water going at one time downhill. When such forest cover is removed, the water runs faster and faster downward to the sea.

Watershed forests keep mountain streams healthy. This means good wildlife habitat and good fishing possibilities. Such forests check erosion and floods.

And so, when David lifted his eyes to the hills around him, he was doing what we of the 20th century should do more often.

The practice of conservation is an act of patriotism, and the understanding of it, the preaching of it, and the contribution to it are parts of the fundamental duty of a citizen in a free society.

WAITING FOR SPRING

I spent hours of my spare time
With a very lovely lass—
In November and December
When I cannot fish for bass,
And thru the new year's early months
When the ice and snow are deep—
I seldom think of fishing
She's on my lap, asleep,
While my heart is in her chubby hands
All thru the winter months,
My interests change and shame me
When I walk and hear no crunch,
I build her forts and snow men
And romp for hours at play—
But can only think of fishing
When I stop to rest each day.
My nights are filled with pleasant dreams
Of rods and reels and favorite streams—
Big bass that made the water swirl
Of good old pals, the little girl,
Awake—its plain what must be done
A man can't sit around just wishing!
I'll let her help me find some bait
And then I'll try the sucker fishing.

By J. A. McHugh

FARMING IN RHYME

A little strip of grain
A wider strip of hay
Will always keep the land
From being washed away.

"A litterbug I will not be;
It's His outdoors I wish to see.
Bottles, cans and broken glass
Make one forget about the bass,
And wish he'd meet the thoughtless guy
Face to face and ask him why.
I guess he's just too ornery mean
To keep the outdoors clean and green."

—Bruce Slavery

"Like winds and sunsets, wild things were taken for granted until progress began to do away with them. Now we face the question whether a still higher 'standard of living' is worth its cost in things natural, wild, and free. For us of the minority, the opportunity to see geese is more important than television, and the chance to find a pasque-flower is a right as inalienable as free speech."—Aldo Leopold

