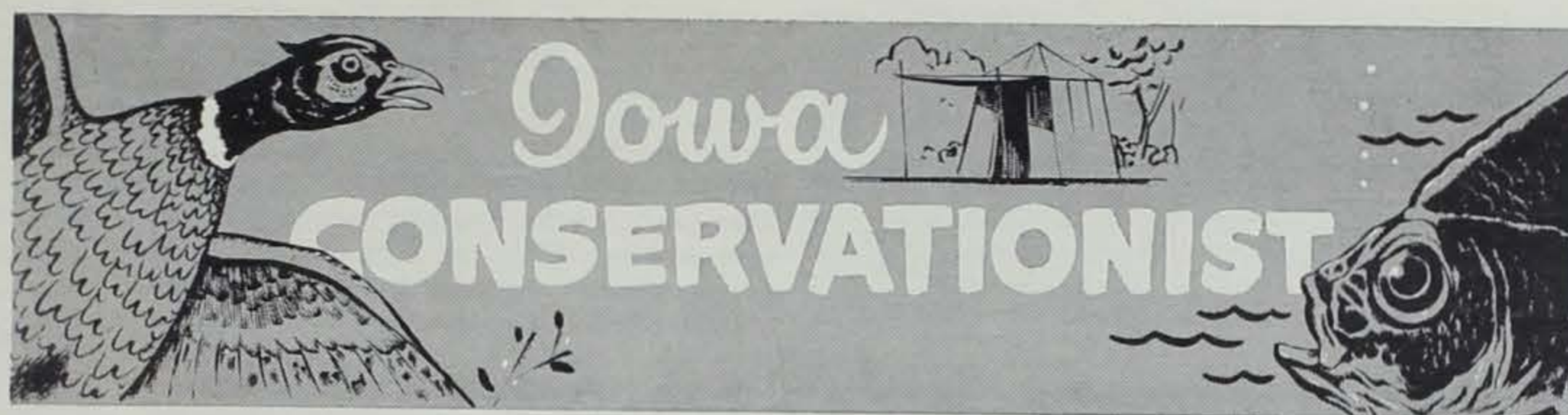


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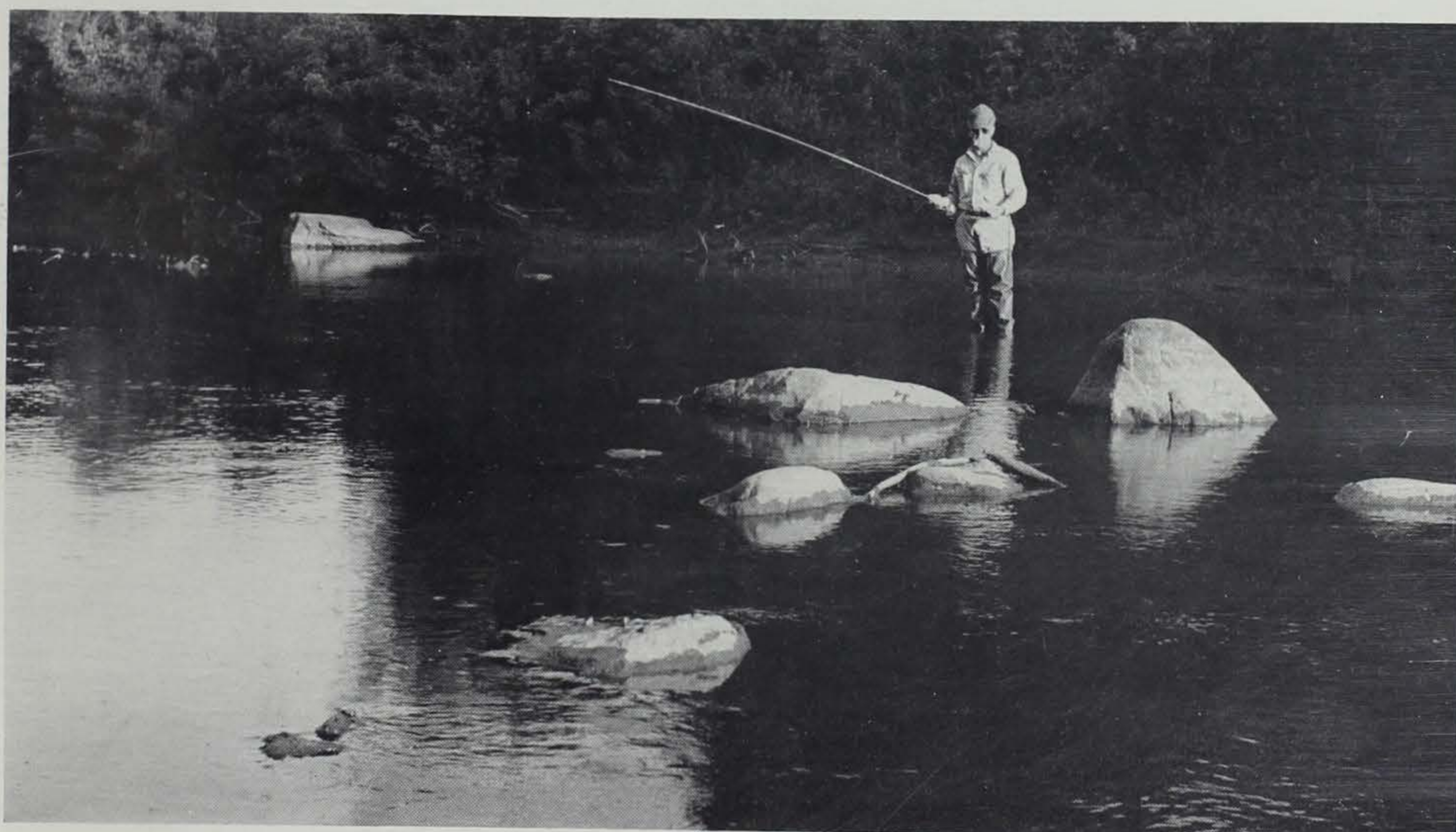


Volume 26

January, 1967

Number 1

# QUALITY WATER



Jim Sherman Photo.

Quality water is not a matter of "fish or people," but "fish and people."

## ALL LIFE NEEDS IT

E. T. Rose

Chief, Division Fish and Game

Many millions of years ago the first primitive living cells which sparked the evolution of all modern plants and animals got their start. To this day, all life has four equally vital basic requirements: air, sunshine, soil and water. Eliminate any one of these requirements and all life on earth will cease. Alter or contaminate any one, and changes will occur in direct proportion to the degree of change involved. Here we will confine our comments to only one of these elements—water.

Clean water for fish and game is just as important for these members of the animal kingdom as it is for all others. Fish are particularly in need of clean water, since they must live in it all the time; and the air they breathe must be just as pure as that of their land dwelling vertebrate cousins. Their delicate gill filaments extract the life giving oxygen from the water just as our lungs perform the same function from the air. Water obtains its oxygen from two sources—mainly by absorption from the air in contact with the surface and from the photosynthetic activity of aquatic plants. Thus, the air in contact with the water must also be clean and free from soluble toxic gases.

Water must be free of excessive turbidity, which can clog these gill

filaments and suffocate the fish. Species composition of fish in a body of water is largely determined by the clarity of the water, the amount of available oxygen, the temperature and freedom from contamination. A trout or smallmouth bass stream is characterized by low turbidity, low temperature, high oxygen tensions and low biochemical oxygen demand. This contrasts with the catfish-carp environment where high turbidity, high temperatures, lower oxygen averages and high BOD's predominate. The fish in the former group depend primarily on sight for feeding, and the latter on taste and smell; consequently, clear, clean water is preferred by most game fish. These clear water streams are becoming fewer and fewer as our state becomes more and more industrialized and urbanized.

Nearly 60 per cent of the population of Iowa now reside in urban areas. Practically all of these cities have sewerage systems with treatment plants of one sort or another. Most of the remaining 40 per cent of the population now on farms also have modern plumbing, and often the drain tiles from their septic tanks lead directly or indirectly into a stream.

It might be appropriate to ask the question, what do we mean by "clean" water? When a boy, George Washington reportedly nearly died from drinking Potomac River water. The Potomac of his day was

(Continued on page 4)



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CIRCULATION THIS ISSUE 61,971

## COMMISSION MINUTES

State Conservation Commission  
Meeting Held in Des Moines,  
Iowa, December 6 and 7, 1966

### LANDS AND WATERS

Approval was given to a new schedule of prices for the state forest nursery stock for the 1967 season.

A request to ask the Executive Council for \$15,000 emergency funds for spillway repair at Rock Creek was approved.

A plan to dig two wells for the purpose of replenishing the water supply of Brown's Lake in Woodbury County was approved.

### FISH AND GAME

A bid was approved in the amount of \$22,041 for farm equipment from the International Harvester Company for use by the Game Section at Red Rock Refuge.

Approval was given for acquisition and development of a small fishing lake near Dexter which would include 120 acres of land at \$250 per acre and a total development cost of \$78,330.

Approval was given to exercise an option from Perkins for 30 acres, more or less, in the Fallow Marsh Area of Palo Alto County at \$150 per acre.

Approval was given for modification of the Klein option adjacent to Weise Slough in west Muscatine County which would extend part of one option for two years.

The Director was authorized to allow promiscuous fishing when emergency conditions due to oxygen depletion endanger fish populations during the 1967 season.

A temporary rule was approved allowing promiscuous fishing at Bays Branch in Guthrie County from December 10 to March 15.

Approval was given for the expenditure of up to \$2,000 for abstract investigation costs of a possible site for the Lansing Fishery Station.

Approval was given for the construction of fishing jetties on the new Lake Anita area in Cass County.

Approval was given to a bid by

the Kramme Construction Company for \$15,790.25 to complete construction at Miami Lake including a latrine, boat ramp, foot trails and parking area.

Approval was given to exercise two options in the Ottosen area in Humboldt County from Housel and Halsrud totaling 108 acres of land at a cost of \$250 per acre for use in a duck marsh.

### COUNTY CONSERVATION PROJECTS

Des Moines County received approval for the acquisition of 5 acres of land at a total cost of \$250 as an addition to an artificial lake site near Dodgeville.

Linn County received approval for the acquisition of 1.46 additional acres of land in the Squaw Creek Residential area at a total cost of \$53,500 for three lots and homes.

Muscatine County received approval for the acquisition of 4 acres of land at a total cost of \$1950 for a river access and picnic area on the Cedar River near Moscow.

Palo Alto County received approval for the acquisition of 40.88 acres of land for \$4,000, 12.28 acres by direct purchase and 28.6 acres of county-owned land located north of Cylinder to be used for fishing, picnicking, camping and wildlife habitat. Trapshooting and rifle range will be included.

Polk County received approval for an addition to Yeader Creek Lake Park of 1.72 acres as a gift.

Shelby County received approval for a development plan for Mill Creek Park, which will include an 11 acre artificial lake for multiple use outdoor recreation; trailer camping, tent camping, group camping and picnic areas, horseback trails, reforestation and wildlife habitat plantings.

Cedar County received approval for the acquisition of 75 acres for \$24,000 located two miles east of Bennett for the purpose of establishing a recreation area with an 18 acre artificial lake.

Cerro Gordo County received approval for the acquisition of 5 acres at a total cost of \$1,000 as an addition to their White Wildlife Area 1 mile north of Rock Falls.

Cerro Gordo County received approval for the acquisition of 21.65 acres at a cost of \$2165 and .33 acre at a cost of \$12.50 as an addition to their Clay Banks Forest Area located 9 miles southeast of Mason City.

Muscatine County received approval for the acquisition of 1½ acre Nye Cemetery as a gift, located 10 miles east of Muscatine adjacent to Wildcat Den State Park, for the purpose of reconditioning this historical area where some of the first settlers in Iowa are buried.

### GENERAL

Travel was approved to the annual Wing Bee workshop at

## Conservation Forum

Gentlemen:

We are very interested in feeding birds. Living in a wooded area, we have so many varieties of birds that come to our feeders. However, in order to feed the desirable birds, we of course have the sparrow problem. This has been quite expensive, especially when pure sunflower seeds and peanut butter are being fed.

Last week I was at a local feed store and they had for sale a sparrow trap which they say is supposed to be effective. Before we would try this, we wish to know whether trapping sparrows is legal in Iowa.

Very truly yours,  
J.B.

Cedar Rapids, Iowa

*The common sparrow is not protected by Iowa law. You can legally trap and dispose of this particular species.—Supt. Fish & Game Conservation Officers.*

Dear Sir:

I subscribe to the IOWA CONSERVATIONIST and enjoy reading it very much. Enjoyed the story "It's Whitetail Time." Got to thinking about deer, and remembered about those little deer I saw over in Germany, a few years back. I believe they are called roebuck deer. I was wondering if you could tell me, or refer me to someone who could tell me, why these little deer couldn't be turned loose in Iowa. They would be great sport to hunt. The climate in Germany is somewhat the same as Iowa, and also the terrain. I've talked to several deer hunters, and they were wondering about them too. What are the laws on this? Has it ever been tried? Was wondering if there are laws against raising them, and then turning them loose. I've seen advertisements of them for sale, in Kansas I believe. Could you give me some information on it.

Sincerely Yours,

J. O.

Palo, Iowa

*To my knowledge, the roebuck deer native to Germany and other parts of Europe has never been stocked in Iowa. I can see no particular advantage in this small species being introduced, since our growing whitetail herd is providing excellent hunting at this time.*

*The introduction of any exotic species into an area is always attended with certain risks. Classic examples in this country are the carp, the English sparrow, and the European starling. In New Zealand, many big game species were introduced in the early part of this century. Multiplying rapidly, they soon became very destructive, necessitating drastic action by the government to control them. They have paid bounties and employed large numbers of government hunters to kill the various deer and other big game species.*

*Our experimental stocking programs in Iowa are undertaken only after extensive study, and are designed to fill voids in our native game populations rather than to compete with species already established. Iowa law prohibits the stocking or release of any species not already native to the state unless specific permission is obtained from the State Conservation Commission.*

*In summary, I believe the introduction of species such as the roebuck would be unwise in this state, since it could become a nuisance and would, I believe, be inferior to the deer which we already have in good numbers.—Supt. of Game.*

Dear Sir:

At school I am making out a report on the Rose-Breasted Grosbeak. My science teacher asks us to bring a nest of the bird. In my town and neighboring towns I cannot find the nest of the Rose-breasted Grosbeak. So if you can, "Please," send me a nest.

C. L.

North English, Iowa

*The Rose-Breasted Grosbeak is a protected bird in the State of Iowa. It is unlawful for an individual to have in possession either the bird or its nest and eggs. This bird is also protected under the Federal Migratory Bird Act. This Act protects all non-game migratory birds including the plumage, skins, body or any part thereof and their nests and eggs except the following: European Starling, English sparrow, crow, sharp-shinned hawk, Cooper's hawk, and Great horned owl.—Supt. Fish & Game Conservation Officers.*

Poynette, Wisconsin, and to the authority to adjacent areas.

North American Game Breeding and Shooting Preserve Association Meeting at Louisville, Kentucky, and to a research meeting sponsored by the Fish and Wildlife Service in Minneapolis.

Approval was given for a request to renew blanket travel

A report was given on the presentation and reading of a statement of the Commission's position on water pollution at various water pollution hearings this past month.

Approval was given to request Federal cost sharing on six possi-

(Continued on page 3)



## What They Are Saying

(Editor's note: The following editorials are reprinted in whole or in part and represent a cross section of the reaction to the recent Water Quality Standards meetings.)

### STOP POLLUTING IOWA'S WATER

... As has been said time and again, the mere writing of laws will not solve the great problems of conservation. Measures that seek to place rivers and forests under lock and key are self-defeating. The needs of the people require that these resources be made available for wise use as well as conservation.

The word "wise" is the key word in the problem. Certainly industry is as much entitled to use the water resources as is the sportsman. But pollution and stagnation of water resources must be effectively stopped—and now.

Only by assuring that such action will be taken can the best interests of all be served. ... —Herald Register, Grinnell, Iowa.

### WATER POLLUTION NOT NEW

... The problem is not confined to large cities on big rivers, either. As soon as the cities have complied with the provisions of anti-pollution legislation, that are on the books now as well as that to be added in the near future, the little towns along tributary streams can expect to receive more attention. For there is little reason for communities lying along big rivers like the Missouri to be forced to treat their sewage while allowing communities to use the tributary streams for dumping areas for raw sewage.

And these little towns, many of them slowly dropping in population, are not financially able, drawing upon local resources alone, to erect the kind of facility that may become necessary to comply with federal and state regulations.

The problem of water pollution is a staggering one; it poses a threat to everyone and is far too dangerous to be ignored. But the efforts to end it must be tempered with a lot of cautious judgment; water pollution did not just begin a few years ago and it will not be wiped out in a few years. ... —Nonpareil, Council Bluffs, Iowa.

### IOWA SHOULD HAVE HIGH WATER QUALITY STANDARDS

... A person should be able to go water skiing and not risk infection if he should fall into the water (as is inevitable). And rivers and streams should be clean enough so as not to interfere with the survival of fish. Community water supply is a factor in some areas. Swimming considerations are not quite so important here due to dangers involved and because fine public swimming pools are readily available.

The other extreme of material contributed to the series of hearings came at a meeting in Dubuque. There some industries had the audacity to suggest that some portions of the Mississippi be set aside for industrial use without tight pollution restrictions.

This is a shocking proposal. Certainly industries already have contributed a great deal to existing polluted conditions. ...

But the essential thing is not to dwell on the past but to set reasonable standards and enforce them. Forward-looking industry knows that pollution is not going to be allowed in the long run. But industry needs a set of rules that are realistic from the cost and technical standpoint. That is the purpose of the current series of hearings.

The lakes and rivers of Iowa are public property and the public has a right to determine how the water shall be used. Now is the time to settle that these lakes and rivers shall not be used as cesspools and sewers. —Courier, Waterloo, Iowa.



Jim Sherman Photo.

"... he has attended more meetings, talked to more groups, and has made more personal contacts on conservation matters ... than any other man in the state."

## OFFICER HONORED

Fish and Game Conservation Officer Lloyd Huff of Des Moines, whose territory is Polk County, was the winner of the 1966 Iowa Wildlife Federation Conservation Communication Award.

This is the second time in the two year history of the awards program that an employee of the Conservation Commission has been named winner in the Conservation Communication category. The first award was given to James R. Sherman, Superintendent of Public Relations and Editor of the IOWA CONSERVATIONIST.

Huff's recognition was based on his public relation programs; his efforts to get sportsmen to read the IOWA CONSERVATIONIST; and to teaching gun safety to more young Iowans than any other person.

The award citation notes: "Partly because of the large number of people in the area of his work, partly because of his strong beliefs and energetic drive, and be-

cause he has attended more meetings, talked to more groups of people, and has made more personal contacts on conservation matters, his sphere of influence in conservation matters has probably been greater than that of any other man in the state."

Other Iowans honored were:

State Conservationist—Frank E. Mendell, Des Moines.

Iowa Wildlife Conservationist—Frederic Leopold, Burlington.

Soil Conservationist—Marc Cox, Sioux City.

Forest Conservationist—Joseph E. Kepler, Dubuque.

Youth Conservationist—Pam Mackay, Chariton.

Conservation Educator—Susan Atwell, Fort Dodge.

Legislative Conservationist—William R. "Bill" Smith, Cedar Rapids.

Conservation Organization—Federated Garden Clubs of Iowa, Des Moines.

## Minutes

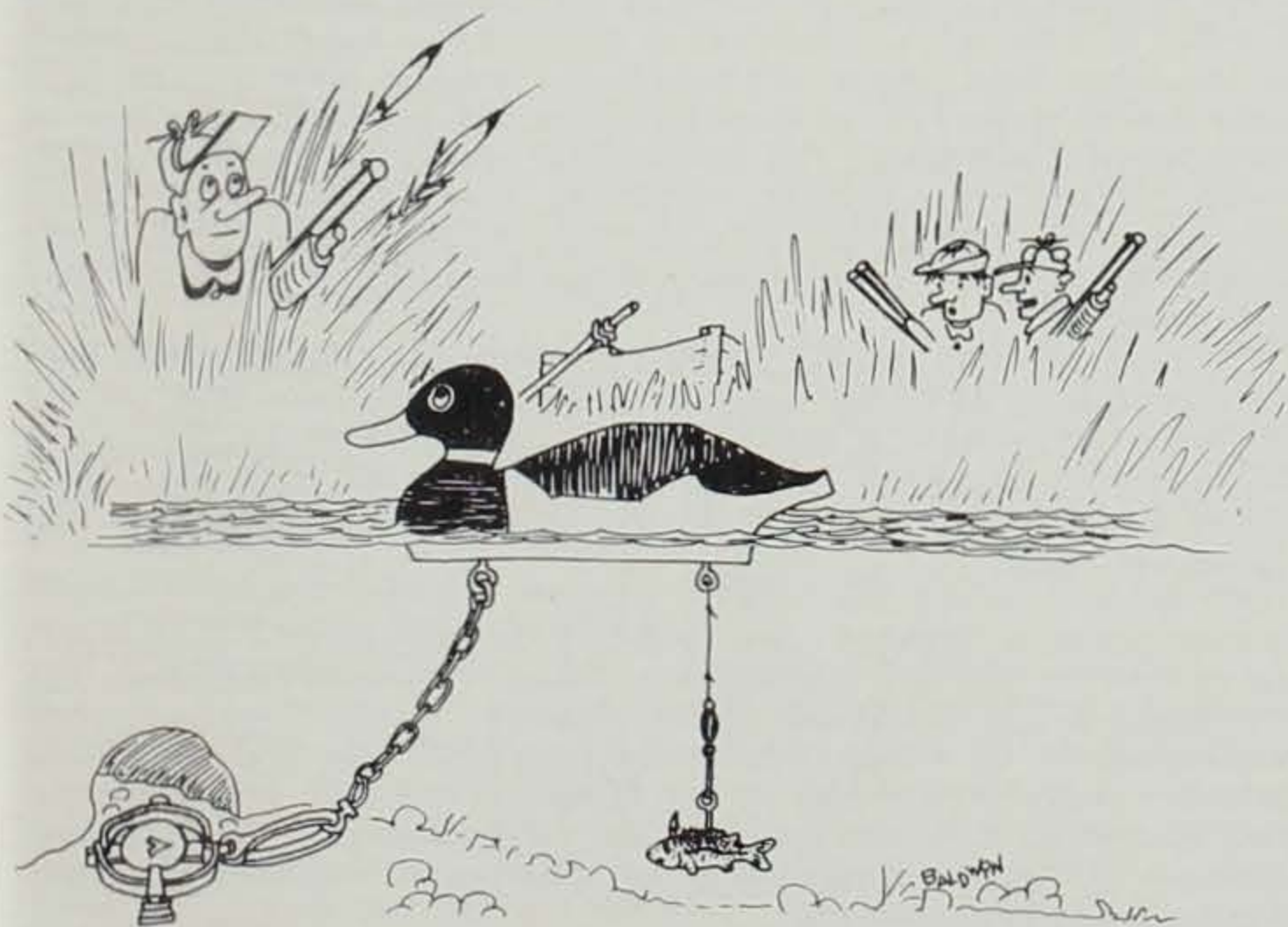
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ble Bureau of Outdoor Recreation projects which would include \$38,000 total cost for acquisition of 849 acres in Lucas and White Breast Forest areas in Lucas and Clarke County by the Iowa Conservation Commission; a request by the Dubuque County Conservation Board for cost sharing on the Fillmore recreation area service building which would have a total cost of \$30,000; a request from Hawarden for cost sharing on the acquisition of a 220 acre area which would include a gravel pit with 100 acres of water for multiple recreation use at a total of

\$25,250; the Woodbury County Conservation Board request for cost sharing on the Little Sioux Park near Correctionville consisting of 335 acres for recreation use at a total cost of \$83,305; Scott County Conservation Board request for cost sharing on the construction of a wading and swimming pool at Middle Road Park for a total cost of \$131,000; a request by the Planning Section for cost sharing on a project costing \$39,700 which would revise and update the state wide outdoor recreation plan demand study to be carried on by Iowa State University.

A bid was accepted from Keith

(Continued on page 5)



Honkblinder claims to be an all-round sportsman.



## Quality Water

(Continued from page 1)



Jack Kirstein Photo.

Our affluent society threatens the future of water oriented recreation.

certainly "clean" by today's standards. Perhaps we are not looking for "clean" water at all, but instead water of acceptable quality for fish, wildlife and human needs. Much as we might like to see the Mississippi, Des Moines, the Wapsipinicon, the Iowa, the Cedar, Little Sioux, Big Sioux, crystal clean and clear like the roaring Gunnison or Nipigon, we never will. These Iowa streams never were as clean as the Gunnison, even before white man's arrival in Iowa and the resulting destructive channeling, drainage, erosion and pollution of the past 100 years.

From the earliest times man has used streams and rivers to dispose of his wastes. When the pollution load caused by man's activity was small enough to be readily decomposed and rendered harmless by the natural biological processes in the stream, there was no reason aside from human health safeguards to control the waste discharges.

Every stream has a capacity of self purification of certain pollutants. If this capacity is not exceeded, it can be important economically to a community. It reduces the financial burden to a city of having to do in treatment plants what nature can do at least partially. Right or wrong there is scarcely a community in the United States that does not make use of this principle. Industry too, which uses vast amounts of water and generates large amounts of wastes, has historically made use of the waste assimilation capacity of rivers. Though this capacity is a fixed quantity, it varies according to a number of factors: the volume and potency of sewage discharge, plus the quality of the receiving stream, the amount of sewage it has already received from upstream sources and the distance along the stream to the next point of contamination.

Again, right or wrong, some localized deterioration in water quality has been accepted as the price of economical waste disposal. In other words, we usually don't like to fish or swim near the sewer effluent. So long as a stream could recover before an additional load was placed on it or fish were not killed, people were not generally concerned.

With this background, it is easy to see why we now have a serious pollution problem. Today even a small effluent of raw sewage is considered intolerable even in the mighty Mississippi. Increasing urban populations in Iowa and booming industrial developments, including the terrific expansion of livestock feed lot operations, together with synthetic fertilizers and pesticides have increased the pollution load far beyond the capacity of most streams to adequately assimilate.

Even if the pollution is not severe enough to kill fish, the increasing organic load often causes off flavors and odors making fish unpalatable. Our research program on an especially severe instance on the Cedar River revealed the cause of these conditions existing from Otranto on the Minnesota border to below its confluence with the Mississippi. A fungus, one of the *Actinomyces* which thrives on heavily contaminated water, was responsible. Similar situations exist below Des Moines on the Des Moines River. So pollution is not just a problem of killing fish.

Of what value is a resource if it can't be utilized? The recent publicity in the Iowa Press concerning the commendable activities of the new Water Pollution Commission indicates the magnitude of the pollution problem in Iowa and the sincere desire to eliminate the chronic pollution problems associated with municipal and industrial wastes. Nationally, the problem is really bad. It is estimated that the total organic pollution load from municipal sewage, both treated and untreated, is equivalent to the raw sewage discharge of 50 million persons.

During the past 10 years or so, terrific strides have been made to control some of this contamination of our nation's waterways. The Federal governments Grants-in-Aid Program, totaling 105 million dollars annually to municipalities in cost-sharing treatment plant construction and improvement, has just been increased to 3.6 billion by the Congress. What possible excuse can now be used to continue pollution?

Why do we require clean water for fish and for game? As pointed out previously, fish will die in the absence of sufficient dissolved oxygen for their respiratory purposes. Organic matter in the form of animal and many industrial wastes decomposes in the water and this decomposition requires oxygen. If the pollution load utilizes all, or down to 1 to 2 parts per million of the stream or lakes' available oxygen, fish and all other aquatic life requiring dissolved oxygen will perish. This includes many species of aquatic insects that are important fish food organisms. Crustacea, including crayfish, molluscs, snails and clams also die.

Some will ask what is most important, fish or people? This question should never be asked. Certainly we can have both. Adequate sewage treatment will remove up to 90 per cent of the biochemical oxygen demand and this should be a minimum goal and depending on many factors. For example, if the city of Des Moines, with about 220,000 people has a treatment plant with 90 per cent efficiency, that would



Jim Sherman Photo.

Because of their limited capacity, our prairie streams can tolerate only the smallest of pollution loads.

leave 10 per cent raw sewage equivalent in B.O.D., or a demand on the Des Moines River's oxygen equal to 22,000 people. This ignores the vast population equivalent from industry in Des Moines. So what would happen if Des Moines (Cedar Rapids, Clinton, Davenport, or Sioux City) were located at Estherville or Emmetsburg? The answer is obvious—a foul stinking, fishless stream for many miles. Obviously, more sophisticated treatment processes must be developed if communities on the headwaters of major rivers or on small streams plan to expand their population or their industries. Vastly intensified research in sewage treatment methods to develop new approaches is a vital necessity for the welfare and future of our state and nation. The question is not of fish or people, it is a question of fish and people.

The presence of good populations of high quality game fish in a body of water is a biological indication of water fit for many human needs. On the other hand, water which will not support good quantities of game fish on a year-round basis indicates mis-management of one of our most vital resources. The recreational uses of our streams are increasing every year. Fishing, swimming, boating, and water skiing have become a way of life for a majority of Iowa people. Thus, the demand for this wholesome outdoor recreation must be met if for only these reasons.

The need for high quality water for municipal and industrial uses is also increasing as we become more and more urbanized. How we will cope with this paradox of greater demand for higher quality water and the increasing sources of pollution accompanying our expanding economy is the question uppermost in the minds of conservationists and economists today.

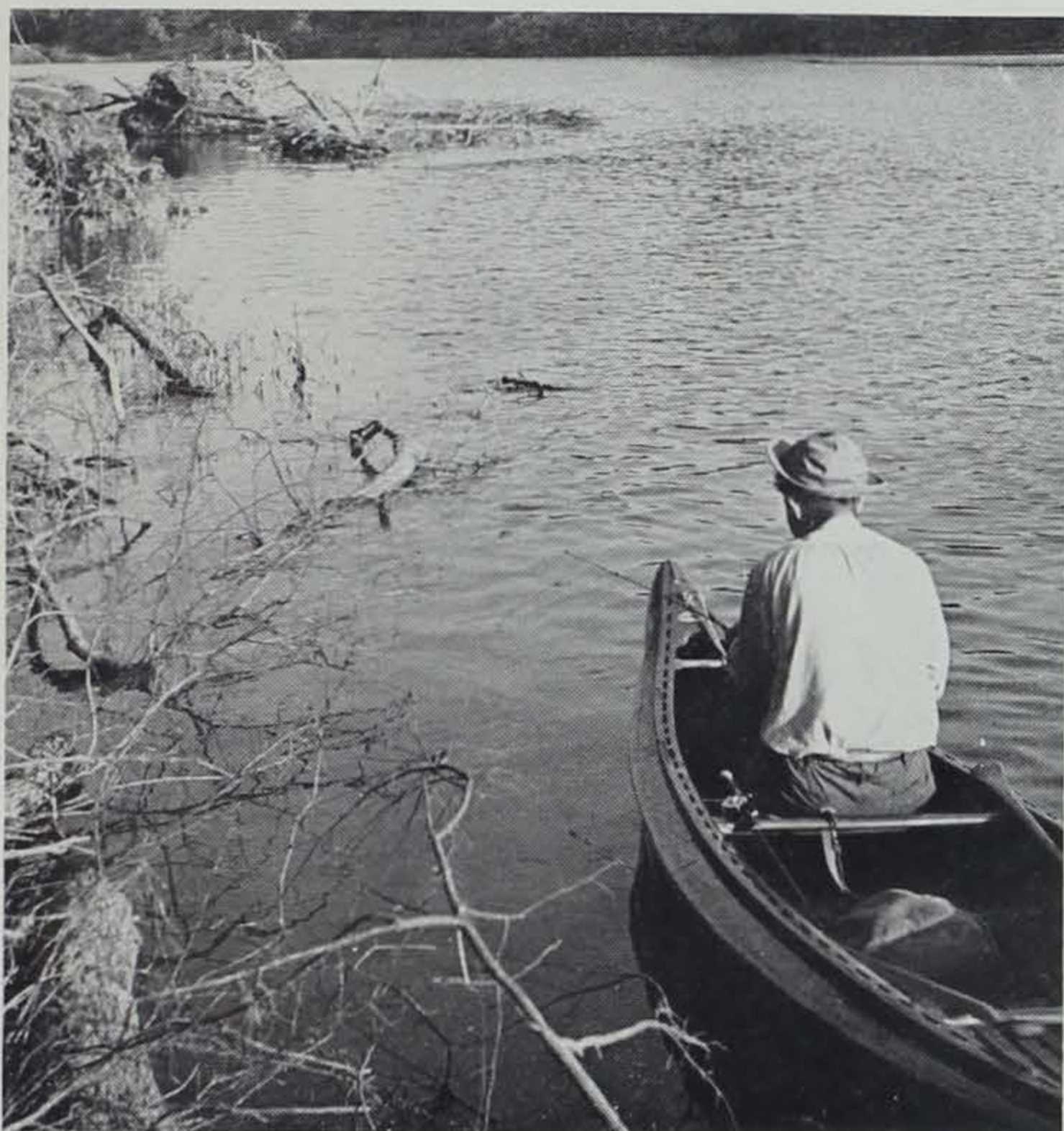
Our affluent society has recently been termed "our effluent society." By comparison, streams of Iowa, including the Mississippi and Missouri, are not yet in too bad a condition. Those of us who have seen the Mississippi below St. Louis, or the foulness of the Potomac below Washington, D. C., or the Ohio, or the Schuylkill, may feel that we in Iowa are really taking care of our streams. But look at the record. Iowa ranked sixth in the nation in the total number of fish killed by pollution in 1965, exceeded only by California, Connecticut, Ohio, Oklahoma and Pennsylvania.

(Continued on page 5)



## Quality Water

(Continued from page 4)



Jim Sherman Photo.

All life must have clean water free from toxic agents, oil scum or objectionable tastes and odors.

The new water quality standards to be adopted by the state must be so designed as to provide an enhancement of our rivers. This will mean treatment plants for those cities not at present so equipped; more complete treatment by those with inadequate facilities, and establishment of strict enforcement against by-passing under any and all circumstances except in extreme emergencies or prior approval by the Water Pollution Control Commission.

Virtually no consideration has been given to the pollution problem created by another mushrooming industry—the farm feed lot operations. Drainage from these lots as well as the highly potent agricultural fertilizers and pesticides are cause for deep concern. Regulatory machinery must be devised for these operations or improvements in urban treatment facilities may be completely off-set by this new source of contamination.

Wildlife must have clean water, free from toxic agents, oil scums or objectionable tastes and odors. One of the greatest hazards here lies in "accidental" spills of industrial products. Waterfowl are particularly susceptible to death from oil spills. The increasing number of ammonia fertilizer plants in Iowa is cause for deep concern for fish and wildlife. Accidental spills have on several occasions caused heavy losses to fish and some waterfowl.

The effects of pesticides on Iowa fish and wildlife are being studied at the State University of Iowa, under special grant from the Conservation Commission to the Hygienic Laboratory. Many instances of death to fish and songbirds from the use of pesticides have been determined. So far this study has not revealed excessive amounts of residues in our wild game birds and animals, but continuing studies are being made. A special study is now under way to determine residues, particularly of the chlorinated hydrocarbons, in certain fish in Iowa streams. Significant here is a recent ruling by the U. S. Fish and Wildlife Service prohibiting the use of DDT on any of the areas under their jurisdiction. Hopefully, all of these chlorinated hydrocarbons, including chlordane, heptachlor, toxaphene and so on, will eventually be eliminated by the U. S. D. A. and other less toxic but equally effective insecticides used or developed.

At a recent special Midwestern Governor's Conference on Pollution, Congressman Blatnik of Minnesota was extremely critical of the 13 states attending the meeting. He stated that from 1956 to 1965 there were over \$200 million in Federal grants to these states for sewage treatment facilities. He pointed out that it was the states' primary responsibility for water pollution control, but to date none of these states had put up one dollar toward the \$835 million spent for treatment plants. The communities have contributed \$635 million.

Perhaps sewage is the responsibility of the states, but some people question it. Why, they ask, should a community come running to a state or federal agency to clean up the mess they themselves have created? Perhaps, and as provided in new legislation, where cities are bonded to the limit and are ordered to clean up immediately, state and federal agencies should assist a city in cost-sharing in this crash program to clean up the nation's streams. I concur in this. If there are any available surplus funds in Iowa—what better use could be made of them?

In summary, I would like to point out that this clean water problem is, of course, a "dirty" water problem that is being solved. I have a very high regard for the Water Pollution Control Commission and the faith to sincerely believe they, with the help of leaders in our urban and rural areas, will solve most of these problems affecting fish and game and water oriented recreation.

Fish and game agencies have long been a thorn in the side of pollution control agencies. We are constantly on the lookout for contamination sources, especially if any fish or wildlife were adversely affected. Fish are biological indicators of pollution and when contamination reaches the point of killing fish, certainly all users of water should be concerned. So it is not a matter of "fish or people," but "fish and people." What's good for the former is a real necessity for the latter.

Regardless of the high quality of the water quality standards soon to be adopted by the State of Iowa, they will be of no consequences if they merely exhaust the nation's resources of ink and paper instead of being enforced. An adequate, highly trained enforcement staff will be needed to provide the expediting thrust to achieve clean water for fish, fowl and our fellow man.

## THE UNFATHOMABLE FISHERMAN

The unpredictability of when fish will bite is legendary; it is becoming obvious that when fishermen will fish is equally unpredictable. For the last twenty-five years, more and more studies on management of game fishing have included the gathering of information concerning the fishermen as well as the fishing. Records are kept on the number of persons fishing, the number of hours spent on the water, the number and weight of fish caught, the amount spent for tackle and bait, and the distance and directions traveled to reach the fishing grounds. From figures starting with Survey aquatic biologist G. W. Bennet's creel censusing, begun in 1942 at Ridge Lake near Charleston, Illinois, a most interesting compilation has accumulated on the economics of game fishing in the state.

When these observations are analyzed in terms of angler attitude and fishing effort, it is obvious that fishermen in different states or areas react differently to fishing. This is brought out graphically in the Survey's recent Bulletin article, Stocking and Sport Fishing at Lake Glendale (Illinois), by aquatic biologist D. F. Hansen. Previous figures in Michigan indicated a rather close relationship between fishing effort and quality of the fishing, but Dr. Hansen found that this did not hold at Lake Glendale. Weather seemed to have a considerable effect, especially if abnormal weather occurred in spring when fishing is usually heaviest. Fishing interest generated in a period of excellent fishing appeared to carry over sometimes for a year or two after the quality of the fishing has decreased greatly. News of good fishing travels much faster and more widely than news that fishing has dropped off. Usually only good fishing or a change for the better is considered newsworthy.

Fishermen show a wide range in motivation. Some of them like to fish whether they catch much or not. Some consider that one good fish a day is a better conversation piece than the limit in half an hour. Some like to use only a fly, others only a plug, and so on. And many fishermen scorn changing their methods of fishing even when other methods are highly successful and theirs are not. Some like to fish only certain bodies of water, whether the fishing is good or not; others go from lake to lake in search of the best catches.

The one thing common to all fishermen is that they are a dedicated, persistent lot.—*Illinois Natural History Survey Reports.*

## Minutes

(Continued from page 3)

Merrill for airplane insurance at a cost of \$190.

Approval was given to a preliminary agreement with the Concrete Materials Company of West Des Moines for the development of a new channel for the Raccoon River and an artificial lake ad-

jacent to Walnut Woods State Park.

A report was given by Asst. Attorney General Robert Scism on the status of Conservation Commission litigation at present time which includes four trials.

Even though the armadillo is completely covered by bony coverings, the front of the upper and lower jaws are toothless.



## WINTER COVER

Richard Nomsen  
Game Biologist

Pheasants are hardy game birds and can easily withstand the rugged Iowa winters if proper cover is available. Severe winter storms during recent years have thoroughly tested winter cover in much of Iowa's northern pheasant range. Birds in good cover survived while those in poor quality habitat were lost.

In much of Iowa's primary pheasant range, the pheasants' existence depends upon the farmstead windbreaks during the blustery winter months. When blizzards occur, windbreaks will often mean the difference between survival and death of pheasants on the farm. Unfortunately the number and quality of farmstead windbreaks are being reduced each year.

The Agricultural Conservation Program now includes several practices which will provide safe winter habitat for pheasants and other wildlife. The new H-3 practice provides for the establishment of farmstead windbreaks which will protect wildlife and prevent wind erosion plus other substantial beautification benefits. Windbreaks are to contain a minimum of three rows and it is recommended that the outside row be planted to shrubs. Evergreens provide the safest winter cover for pheasants. Cost sharing includes 80 per cent



Well established, thickly growing cover produces ideal winter protection for Iowa's favorite game bird. Farmers using the H-3 practices will receive financial assistance in establishing such cover.

Jack Kirstein Photo.

of the cost of land preparation, trees and planting, not to exceed \$70.00 per acre; \$0.75 for each shrub planted not to exceed \$75.00 per windbreak plus cost-share on fencing other than boundary or road fencing. Farm windbreak improvements can also be cost shared under the new H-1 practice.

The G-1 (A) practice allows the planting of shrubs around existing windbreaks. Two or three rows of honeysuckle around a windbreak puts cover where it is needed—close to the ground. Sub-zero

winds and blowing snow are stopped, providing a safe shelter for next year's nesting birds. Federal cost sharing includes 80 per cent (up to \$200) of the cost of shrubs, seedbed preparation, planting and fencing.

These conservation projects offer unlimited opportunity for Sportsmen Clubs, Service Organizations, 4-H Clubs, F.F.A. Groups, Boy Scouts and interested individuals. Habitat improvement is a long term investment—results will not be apparent for several years. But

the importance of adequate winter cover is evident, and with fewer farms and more intensive agriculture in the future, the value of farm windbreaks as wildlife shelter will increase.

**Remember**—It's much too late for action once the blizzard starts—plan your windbreak improvement now and have it approved by your county A.S.C.S. Committee. A.S.C.S. will make payments for the Government's share of the cost only for practices approved by the A.S.C.S. county committee.



Jim Sherman Photo.

The American Forestry Association has designated this soft maple as the largest of its kind in the United States.

## IT'S THE GREATEST!

One soft maple near Stratford, Iowa, has won acceptance by the American Forestry Association in Washington, D. C., as the largest of its kind in the United States. Circumference at 4½ feet above ground is 23 feet 2 inches. The maple measures 115 feet in height and has a crown spread of 108 feet.

An assistant to the Chief Forester of the Association stated in a letter to Mr. Glen Snyder of Iowa Falls, "We are pleased to inform you that this magnificent tree northwest of Stratford, Iowa, is the new National Champion Silver maple (*Acer saccharinum*), and replaces the famous 'Hurd' maple in Fryeburg, Maine on the Social Register of Big Trees."

Mr. Snyder was instrumental in locating the big tree and submitting it to the Association for their consideration. Located on private land near the Des Moines River, the new champion may be reached by driving north on blacktop county road "Q" from Stratford and crossing the river bridge. Approximately one-quarter mile northwest of the bridge is a gravel pit. The big maple is located between the gravel pit and the river.

Commission officials remind Iowans interested in seeing the new national champion silver maple to receive permission from the landowner before venturing onto his land.

## TREE ORDERS BEING ACCEPTED

John Stokes  
State Forester

Orders for trees and shrubs to be planted this spring will be accepted beginning January 1, 1967, by the State Conservation Commission. The hardwood and conifer seedlings plus wildlife shrub plants will be shipped or can be picked up from the Forest Nursery at Ames, Iowa, sometime between the latter part of March and early May.

The conifer seedlings, including the various species of pines, are usually the most popular with Iowa landowners. A table, included in this issue, shows the seedlings available, cost and ordering procedure. Landowners in a county can pick up their trees in one lot to insure fresh trees to plant. If landowners do not wish to pick the trees up at the nursery, they will be shipped to the purchaser collect. Shipment

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## PROGRAM AID FOR FARMERS AND PHEASANTS

Gene Hertel  
Assistant State Forester

The pheasant's best friend is the farmer with an interest in wildlife. He is the only one really in a position to provide winter cover. Practically all of the pheasant range is privately owned and any extensive program must be on these lands.

Planting trees and shrubs is the best way to provide a safe winter "home" for wildlife. Farmstead windbreaks or odd area plantings are usually the most practical places to plant. Windbreaks serve the dual purpose of farmstead wind protection and wildlife cover. Field corners and tracts cut off from cropland by a stream, make excellent planting sites.

The assistance of the Soil Conservation Service, Extension Service and Conservation Officers and District Foresters of the Conservation Commission is available in deciding whether planting is feasible and how to proceed. Money is available to help cover planting costs of trees and shrubs. Make application for this help to the County Agricultural Stabilization and Conservation Service (ASCS) office.

There are several things which can be done to make sure your planting is a success. Soil type, drainage, fertility, soil depth, local climate and the purpose of the planting are important in the choice of plants. If your site is either extremely dry or wet, special care will be necessary in this selection. For example, Russian olive might be used on a dry area and some form of willow in a very wet spot. Evergreens are excellent windbreak trees but some locations will not support them.

The preparation of the ground prior to planting is the next important step. Fall plowing is usually the best method to use. Successful planting preparations can be carried out in the spring, however. At any rate, plowing is essential if a good seedbed is to be obtained. The absence of clods makes it easier to plant, and insures essential root-soil contact. Of course, the primary purpose of ground preparation is to eliminate competition from weeds and grass. Weed plants will rob the planting of needed water and soil nutrients and eventually make a carefully planted area a dismal failure.

Spacing of rows is another important consideration. Tall growing plants should not be planted close to low growing ones, especially where the larger ones will eventually shade the smaller. Plants should be given enough space to develop more or less naturally. If they are crowded, only part of the plants will survive, and those



Windbreaks serve the dual purpose of farmstead wind protection and wildlife cover. Windbreak improvements will be cost-shared when approved by local county A.S.C.S. committees.

which do will be somewhat stunted. Wherever practical, between row spacing should be determined by the equipment which is available for care after planting. This may mean spacing the plants so that it is possible to mow between the rows, or spacing to permit cultivation.

Fertilization would be a considerable help to wildlife shrubs in the early years. Either apply a complete fertilizer to the area at the time of preparation, or plan on top dressing in subsequent years. It is also best to apply a rate of fertilizer as determined by soil tests or by experience locally with the soils in question.

All too often, the steps outlined here are followed at planting time and then forgotten. When this happens, the plantings often fail. If the effort put into the planting is to pay off, you must plan to watch their development carefully.

Protection from livestock is essential, and a plan for any needed fencing should be part of the project. Not only do the animals eat the foliage, but they compact the ground and trample the seedlings.

To reserve the growth elements of the site for the shrubs and trees, grass and weeds must be kept from the area. Cultivation may be the easiest answer, as this type of equipment is usually available to landowners. Mowing is another possibility. However, mowing does leave competing weeds and grasses around the plants, whereas cultivation will nearly eliminate them. Chemical weed control is another possibility; chemicals must be chosen with care, however. This method is especially effective during wet periods when it is impossible to cultivate.

Irrigation at the time of planting or during the growing season is not usually necessary with field plants. It stands to reason, though, that in periods of extreme drought, watering could save the plants. With deciduous shrubs this is usually unnecessary because they have the ability to wilt, drop leaves and still recover with subsequent rainfall. Windbreak trees of larger size and higher value should be watered during dry periods, if possible.

Tree and shrub plantings which can mean life or death to pheasants and other game during severe winter storms can be started cheaply. Wherever the planting is made on the farm, it will be a source of beauty and satisfaction to those who plant. In so managing the land we can make Iowa a more beautiful and pleasant state in which to live.

According to experiments, bees recognize honey-yielding flowers first by color, and secondly by scent.

Water rats are almost completely without the strong musky smell of their relatives, the muskrat.

It is untrue that the ostrich hides its head in the sand when confronted by danger. It kicks viciously when cornered or wounded.

The dragonfly is a creature of the air and never walks. Its legs are used only for catching prey and as landing and perching gear.

Most moles work day and night, probably hardest in the daytime when the earthworms and insects are stirring.

## SPACE AGE LEXICON

Eddie Finlay, noted Brittany trainer, feels that outdoor writers need new terms to describe bird hunting and bird dog men. Eddie, who is also secretary of the South Carolina Wildlife Resources Department, suggests that we learn from the news commentators. For instance:

Missile malfunction—didn't cut a feather.

Missile lag—didn't lead him enough.

Diplomatic immunity—he's not your dog so don't whip him.

Diplomatic concession—admitting you didn't shoot at the only bird that fell.

Diplomatic deadlock—refusal to admit you didn't.

Peaceful coexistence—you don't talk about my dog and I won't talk about yours.

Situation unclear—dogs pointing all over the place.

Review of strategy—which side of the ditchbank will they fly down?

Clarification needed—where in hell did those singles go?

Exploratory discussions—argument over where in hell they went.

Fait accompli—they went in the honeysuckle.

Gold drain—boarding your dogs.

Dangerous potential—taking along that unbroken puppy.

Domestic crisis—one of your wife's nieces getting married on Saturday afternoon in the bird season.

Cold war parley—explaining why you won't be able to attend the wedding.

Mutual trust—"Since you're my friend, you can have him for \$300."

(Continued on page 8)



## TREE ORDERS

(Continued from page 6)

will be made by the available commercial carrier assuring the quickest possible delivery of the nursery stocks to the purchaser.

By studying existing plantations, foresters have indications of which pine trees will do the best in certain soil types and conditions. The Conservation Commission has 10 District Foresters located at Adel, Chariton, Marshalltown, Anamosa, Fairfield, Muscatine, Le Mars, Charles City, Red Oak and Elkader who assist landowners in choosing species to plant and other timber management problems. The foresters also assist landowners in signing up under the County ASC Program. The tree planting practice, A-7, under this program assists landowners by paying part of the cost involved in clearing for tree planting, land preparation, the actual planting and fencing where needed. Additional information may be obtained from your County ASC Office, District Forester, or other Commission Employees.

Trees for sale from the State Forest Nursery are to be used for forest land and game area plantings. The trees cannot be used for ornamental, shade or other landscape purposes and may be used for windbreaks only when the area planted will be at least 200 feet in width and 300 feet in length. A new practice under the ASC program, G-4, allows the landowners to plant game shrubs to provide low cover plants in existing windbreaks. The shrubs used under this Federal Cost-Sharing practice, however, must be purchased from a commercial nursery. Trees grown by the State and shipped from the State Forest Nursery cannot be used.

Planting trees as recommended by Commission Foresters means a return to production of idle submarginal farm land, isolated areas and hillsides that erode easily and other lands where trees provide the most desirable type of vegetative cover. The trees will provide many benefits including erosion control, financial return, wildlife cover and aesthetic values which bring the greatest satisfaction to many landowners.

### TREES AND SHRUBS AVAILABLE FOR FARM PLANTING, SPRING OF 1967

STATE CONSERVATION COMMISSION  
EAST SEVENTH AND COURT AVENUE  
DES MOINES, IOWA 50309

SPECIES	AGE CLASS	PRICE FOR:			
		250	500	750	1,000
Austrian Pine	2-0	\$6.25	\$12.50	\$18.75	\$25.00
European Larch	2-0	6.25	12.50	18.75	25.00
Jack Pine	2-0	6.25	12.50	18.75	25.00
Ponderosa Pine	2-0	6.25	12.50	18.75	25.00
(Western half of Iowa only)					
Red Cedar	2-0	6.25	12.50	18.75	25.00
Red Pine	3-0	6.25	12.50	18.75	25.00
White Pine	3-0	6.25	12.50	18.75	25.00
Multiflora Rose	1-0	5.00	10.00	15.00	20.00
Dogwood	1-0	4.50	9.00	13.50	18.00
Wild Grape	1-0	4.50	9.00	13.50	18.00
Honeysuckle	1-0	4.50	9.00	13.50	18.00
Ninebark	1-0	4.50	9.00	13.50	18.00
Green Ash	1-0	4.50	9.00	13.50	18.00
Red Oak	1-0	4.50	9.00	13.50	18.00

### SPECIAL WILDLIFE PACKET...\$5.00

The packet contains 250 plants including 50 evergreens, 25 honeysuckle, 25 ninebark, 25 Russian olive, 25 wild grape, 25 multiflora rose and 75 other plants beneficial to wildlife. Illustrative suggestions for odd areas and farm pond plantings will be furnished with each packet.

### SPECIAL NOTICE

- (1) The nursery reserves the right to substitute species of a suitable type if a shortage occurs.
- (2) PAYMENT FOR NURSERY STOCK MUST ACCOMPANY ORDER.
- (3) Nursery stock must be ordered in multiples of 250 and each order must total at least 500 plants. The wildlife packet may be ordered singly.
- (4) All trees and shrubs will be sent to the purchaser PREPAID, unless the purchaser specifies the order is to be picked up. Shipments will be made by the available commercial carrier assuring the quickest possible delivery of nursery stock to the purchaser.
- (5) 2% Iowa State Sales Tax must be included on all orders.

### TREES PER ACRE AT DIFFERENT SPACINGS

5' x 5' — 1,742	5' x 6' — 1,452
6' x 6' — 1,210	6' x 7' — 1,037
7' x 7' — 889	8' x 8' — 681

## SEASONS NOW OPEN

### Quail

Season—October 22 through January 31, 1967.

Bag limit—eight (8), possession limit sixteen (16).

### Rabbit

Season—September 10 through February 19, 1967.

Bag limit—ten (10), no possession limit.

### Raccoon

Season—Noon (12:00 o'clock), October 15 to midnight (12:00 o'clock), February 28, 1967. No bag or possession limit.

### Red Fox, Gray Fox, Coyote, Weasel, Ground Hog

Continuous open season.

### OPEN TRAPPING SEASONS

#### Raccoon, Badger, Skunk, Opossum, Beaver, Civet Cat

Season—Noon (12:00 o'clock), November 12, 1966, to midnight (12:00 o'clock), February 28, 1967. Entire state open.

## Space Age Lexicon

(Continued from page 7)

Meeting the challenge—"I'll give you old Joe for him."

Wide diplomatic experience—has bought and sold many bird dogs.

Alien ideology—hunting quail with anything but a pointer or setter.

Liberal—hunts on anybody's land.

Conservation—won't let anybody hunt on his land.

Momentous decision—can the jeep get across the ditch?

Fiasco—it couldn't. Where's the closest tractor?

Price differential—what you paid for the dog and what you told your wife you paid.

—National Shooting Sports Foundation.

The nation's hunters spend more than \$130 million annually for food and lodging on hunting trips. Much of this is spent in the economically distressed backwoods areas.

The gray fox is a fairly good climber. It climbs a tree by hugging the trunk with its forelegs and forcing itself upward with its hindlegs.

### CURRENT TABLE OF PREPAID SHIPPING COST

Number of Plants	Number of Wildlife Packets	Shipping Cost
250	1	\$2.00
500	2	2.30
750	3	2.65
1,000	4	2.90
1,250	5	3.25
1,500	6	3.45
1,750	7	3.75
2,000	8	3.90
2,250	9	4.00
2,500	10	4.06
2,750		4.19
3,000		6.19
3,250		6.49
3,500		6.84
3,750		7.09
4,000		7.44
4,250		7.64
4,500		7.94
4,750		8.09
5,000		8.19

On orders greater than 5,000, contact the Conservation Commission for shipping rates.

## THE DOGS WITH THE DELICATE AIR

John Madson

We note the opening of Maine's skunk-hunting season. Through December 15 it will be lawful to hunt skunks at night with dogs.

Maine dogs must be highly regarded, to be blessed with four months of skunk hunting. This shows sympathy and understanding of the hound mind, for no human pleasure transcends the soaring bliss that a hound feels when he tears into a skunk.

To deprive a hound of skunks is to deny him a pungent badge of valor that proclaims to all the



Mr. Skunk's raised tail serves as a warning of his intentions.

downwind world that here runs a dog in the full pride of houndhood. A skunk that smells like a skunk is only a skunk. But a dog that smells like a skunk is elevated in the nostrils of his peers, and is a greater dog for it. Not even the most casual bystander can remain indifferent to such a dog. He is a special dog, and marked for special interest.

By officially recognizing a dog's need for skunks, and a skunk's need for occasional exercise, the state of Maine has exalted the bosky delights of night running. —News from Nilo.