

728 23
PROCEEDINGS

OF

24TH ANNUAL MEETING

GAME DIVISION LIBRARY
CHECK OUT BEFORE
REMOVING FROM OFFICE

KANSAS
FORESTRY FISH AND GAME
COMMISSION

ASSOCIATION OF MIDWEST
GAME AND FISH COMMISSIONERS

HELD AT
ITASCA STATE PARK
PARK RAPID MINNESOTA

JULY 10-11-12, 1957

The Twenty-Fourth Annual Meeting of the Association of Midwest Fish and Game Commissioners was called to order at 9:45 A. M. on Wednesday, July 10, 1957, at Itasca State Park, Minnesota, President James W. Kimball, presiding.

MR. KIMBALL: We wish to welcome you to our twenty-fourth annual meeting here in Itasca State Park and to thank the Division of State Parks for permitting us to use the facilities of one of Minnesota's most beautiful state parks. We especially appreciate the efforts of Commissioner Selke, Director Hella, and Miss Farrell for their co-operation.

I noticed that the minutes of the last meeting created quite a large volume of reading and I was wondering who actually reads same in its entirety. I suggested that this report be condensed so that it will be read. We have brought along two stenographers in lieu of a tape recording machine. If you wish to have the notes taken verbatim, please advise us now and we will co-operate. If a written paper is used we will then use it in its entirety.

First of all, I wish to run through the list of extra curricular activities which you and your wives may participate in.

1. Fishing trips with some of our game wardens as guides.
2. We have a large cruiser on Lake Itasca which will make tours of the lake.
3. A light plane will be available on the Lake for a bird's eye view of this area around the Lodge. Jim Lee will schedule trips.
4. John Dobie will talk and show slides on the history of Itasca Park.
5. Inspection of deer range conducted by Dr. Marshall.
6. The game wardens will make themselves available to you for tours of either Bemidji or Park Rapids.
7. For those of you who like boat rides, there will be a speedboat docked at the foot of the stairs below the main Lodge.
8. The social hour before the banquet is sponsored by Scott-Atwater with their representatives, Joe Moses and Tom Anderson demonstrating their motors.

Regarding the last item mentioned, I wish to express my gratitude to Scott-Atwater Outboard Motor Company for offering to sponsor our cocktail party here Thursday evening. I was telling them that these agencies from the fourteen states do buy a lot of motors and this would be a good opportunity for advertising. The president of the company said he was not interested in whether he sold any motors here or not. They were always glad to have an opportunity to be a part of a good conservation meeting such as this. Their representatives here with us today are Joe Moses, Asst. Service Manager, and Tom Anderson, professional water skier. They have with them an aluminum boat with two 40 h.p. motors on the back to use for demonstration purposes here for the enjoyment of all the guests of the Association and their wives. They will be available at the dock at any time you wish to take advantage of their hospitality.

We will give each one a chance to state very briefly what legislation they have gotten this year. Directors or representatives from each state will meet at 1 P.M. to discuss soil bank program with Bud Morgan. Governor will not arrive this morning as scheduled, but will arrive tomorrow morning for 11 A.M. spot on program. Program scheduled for 10:30 tomorrow will be held this morning. Tomorrow's program will start at 8:30.

At this point I would like to introduce Herb Flueck, Art Greeley and Bob Burwell from the U. S. Fish and Wildlife Service.

MR. FLUECK: Appreciate first invitation to this conference. Hope to get some ideas so I can do a better job. A few comments regarding our work as it relates to work you people are in. Recognize soil and water conservation as across the board operation resource wise. Always recognized responsibility for wildlife habitat development. Recognized by Congress. Wildlife is a product of the land. Must be intentionally produced en masse. Service has helped farmers and ranchers. Primary objective is to assist all conservation districts and watershed coordination. Self objectives which include to make crop lands. Appreciate having opportunity of coming.

WILDLIFE WORK IN THE SOIL CONSERVATION SERVICE

(Statement by Herbert A. Flueck, State Conservationist, U. S. Soil Conservation Service, St. Paul, Minnesota)

Soil and water conservation as we know and practice it today is an across-the-board operation, resource-wise. The President, Congress, the U. S. Department of Agriculture, State and other agencies have recognized this fact more and more -- in passing legislation authorizing appropriations -- and in providing program machinery for dealing more effectively with our soil, water, plant and wildlife resource problems -- on a local-State-Federal partnership basis.

As part of its coordinated program of soil and water conservation -- the Soil Conservation Service has always recognized the opportunity and responsibility for wildlife habitat improvement. This responsibility has been recognized by the Congress.

The wildlife work of the Service has been based on the premise that wildlife is a product of the land -- and that, like other crops, it must be intentionally produced and managed. Accidental production is not enough. The bulk of our hunting is provided by the wildlife produced on farms and ranches -- which comprise 60 percent of the land in the United States.

Over the years, the Service -- working through soil conservation districts -- has helped farmers and ranchers to do many things that have improved their lands for wildlife. Some of these practices are specifically designed to benefit wildlife -- while others improve wildlife habitat incidentally -- as a result of better use and treatment of cultivated lands, pastures, and woodlands. There are cases where land is best suited for wildlife use from a soil capability standpoint.

The primary objective of the Soil Conservation Service is -- to assist soil conservation districts and watershed organizations -- to establish and maintain a coordinated technical soil and water conservation program -- within the capabilities of the land -- and in keeping with the public welfare and the needs and desires of individuals and organized groups. Within this basic objective, the Service has specific objectives, which include:

1. To make croplands, grazing lands, woodland, and farm and ranch waters produce secondary crops of fish and wildlife -- consistent with other uses of such lands and waters.
2. To obtain desired crops of fish and wildlife on the land and water areas used for such purposes.
3. To safeguard the habitat of valued wildlife -- and to offset or reduce damage to such habitat -- resulting from changes in land use or installation of soil and water conservation practices.

Since much wildlife is produced and harvested on lands used primarily for other purposes -- effective decisions regarding its increase can be made only by land operators. An important fact -- often overlooked -- is that good production of game and fish is at the option of land operators. The manner in which they use and treat their lands will determine the success of the wildlife crop.

The Soil Conservation Service -- working with soil conservation districts -- has availed itself of a unique opportunity to favorably influence the production of this much desired agricultural crop. In this phase of its work, the Service has maintained close cooperation with State and Federal agencies -- especially the U. S. Fish and Wildlife Service -- and the individual State Conservation Departments.

MR. KIMBALL: Thank you very much.

MR. FLUECK: Would like to hear from A. W. Greeley at this time.

MR. GREELEY, Regional Director, United States Forest Service: Pleasure to be here. We folks in Forest Service have heard about these game and fish commissioners, but I have never had the opportunity to meet with them. We share common problems with many of you. Also share wonderful working relationships in Region 9 of the Forest Service, which includes these states represented here. Pay tribute to work you have been doing with Forest Service in field of spelling out relative responsibilities of the states and Forest Service and federal government. Meeting held in Washington good step forward. Work afterward is especially valuable. U. S. population increase of over 3,000,000 people in three years. Appreciate opportunity of being here.

MR. KIMBALL: State of Minnesota and Association is most pleased with recognition of Forestry for plans for future in operating with Forest Service and Conservation Soil Service.

The next man on the program will fill the shoes of Dan Janzen very capably, Mr. Robert Burwell, Acting Regional Director, United States Bureau of Sport Fisheries and Wildlife.

MR. BURWELL: Glad to have chance to attend meeting and take part in program. Not prepared to make a speech. Hope as time goes by I will have the backbone to merit the respect of everybody here as Dan Janzen did in the past.

INTRODUCTIONS BY MR. KIMBALL:

Dan Janzen - U. S. F. W. S.
Bob Burwell - Acting Regional Director, U. S. Bureau of Sport Fisheries and Wildlife
Sam Jorgenson - Asst. Regional Director, U. S. Bureau of Sport Fisheries and Wildlife
Jim Coutts - Federal Aid, Bureau of Sport Fisheries and Wildlife
Jack Berryman - Federal Aid, Bureau of Sport Fisheries and Wildlife
Noble Buell - Regional Supervisor, U.S.F.W.S.
John Van Oosten - Fishery Research Biologist, U.S.F.W.S.
Herb Flueck - State Conservationist
Wallace Anderson - Midwest Biologist
Arthur W. Greeley - U. S. Forest Service
Louis Hermel, Supervisor, Superior National Forest
John Von Bargen - U.S.Forest Service - Chippewa National Forest
Donald Ferguson - Assistant in Charge of Recreation, Superior National Forest

MINNESOTA

Chester S. Wilson - Former Commissioner
George A. Selke - Commissioner
Gordon Wollan - Assistant Director
Jim Lee - Technical Assistant to Director
Hjalmar O. Swenson, Supervisor, Bureau of Fisheries
F.W.Johnson - Chief Warden, Bureau of Warden Service
John Moyle - Supervisor, Bureau of Research and Planning
Lee Kuluvar - Asst. Director, Firearms Safety
Milton Stenlund - Regional Game Manager
Vern Gunvalson - Regional Game Manager
Dave Vesall - Asst. Supervisor, Bureau of Game
John Dobie - Research Biologist
Frank Blair - Former Director

COLORADO

No one attending

ILLINOIS

Glen Palmer - Director
Thomas Evans - Superintendent of Game Management
James Helfrick - Supervisor of E. & I.

INDIANA

William Barnes - Acting Director, Federal Air Co-ordinator

IOWA

Paul Leaverton - Superintendent of Game
Les Faber - Superintendent of Federal Aid
Kenneth Carlander - Professor of Zoology

KANSAS

Fred Warder, Asst. Director

MICHIGAN

Justin Leonard - Asst. Deputy Director
Frank Birch - Commissioner
Harry Ruhl - Chief, Game Division
Fred Westerman - Chief, Fish Division
Merrill Petoskey - P. R. Co-ordinator

MISSOURI

Frank Briggs - Commissioner
Ben Cash - Commissioner
William Towell - Director
Dunbar Robb - Chief Biologist, Game Section
Kenneth Hicks - Chief of Education, Information
Ray Wells - Chief of Field Service
Larry Gale - Chief of Fish and Game Division
Robert Worthington - District Supervisor
Helen Cooper - Administrative Secretary

NEBRASKA

Melvin Steen - Director, Game and Parks Division

NORTH DAKOTA

H. R. Morgan - Field Representative, Wildlife Conservation
I. G. Bue - Commissioner Federation

OHIO

Hayden Olds - Chief, Division of Wildlife

WISCONSIN

Les Voigt - Director
Dr. Edward Schneberger - Superintendent of Fish Management
Cyril Kabat - Chief Game Biologist
George Sprecher - Asst. Director
Walter Zelinsky - Asst. Chief Warden
Frank King - Asst. Superintendent Game Management
Lyle Christensen - Acting Chief Fisheries Biologist
Harold Jordahl - Federal Aid Co-ordinator

ONTARIO

C.H.D. Clarke - Asst. Chief, Division of Fish and Wildlife
Norman Baldwin - Executive Secretary, Great Lakes Fishery
Commission, Toronto

MR. KIMBALL: Appointed committees very early so that they would be able to work during the year.

H. R. Morgan - Vice President
Gordon Wollan - Secretary-Treasurer

PROGRAM COMMITTEE

Les Voigt - Chairman
Hayden Olds - William Barnes - John Van Oosten

RESOLUTIONS COMMITTEE

Tom Kimball - Chairman (Not present)
Melvin Steen - Chairman
Les Faber - Glen Palmer - I. G. Bue

LEGISLATION COMMITTEE

Tom Evans - Chairman
William Towell - H. D. Ruhl - H. R. Morgan - George Selke
Tom Schrader

NOMINATIONS COMMITTEE

William Barnes - Chairman
Larry Gale

AUDITING COMMITTEE

C. H. D. Clarke - Chairman
Les Faber

MR. RUHL: Chief, Game Division of Michigan - Increasing demand for use of land and trends obvious to all of us.

MR. BARNES: Watershed Program.

WILDLIFE IN THE FEDERAL SMALL WATERSHEDS PROGRAM
AND STATE-FEDERAL COORDINATION

(Statement by William B. Barnes, Federal Aid Coordinator, Indiana Department of Conservation)

The small watershed program is made possible under Public Law 566, known as the Watershed Protection and Flood Prevention Act. In Indiana, 11 watershed plans are presently at different stages of progress.

Five different progressive steps are defined for convenience of discussion:

STEP 1: Submission of an application by the local Watershed Committee to the State Agency for approval or disapproval. At this time, other state agencies should enter the picture; be present for the initial inspection of the proposed area; and be represented at the meeting of the local committee. Here, the different cooperative endeavors may be explained for later application on going projects. Three projects are now at this stage in our state.

STEP 2: State Conservationist forwards approved application to Washington for approval or disapproval of Soil Conservation Service Administrator. No projects are at this stage in our state.

STEP 3: After approval for planning assistance, a watershed work party prepares plans for watershed treatment. Usually, at this point, the U. S. Fish and Wildlife Service makes their survey and prepares a report. Seven projects are now at this stage.

STEP 4: Final completion of plan approved by local committee and transmitted to Washington for final review by the Department of Agriculture and other agencies. One project is now at this stage.

STEP 5: Transmittal to Congress -- there are no projects now at this stage in Indiana. Any project where Government contribution to construction costs are less than \$250,000 do not need congressional approval.

Up to the present time, we have no small watershed project in the actual developmental stage. It is not known how many states within this association have such programs now in development. Consequently, any consideration of the various practices to be initiated must be discussed on the grounds of planned activities rather than partially developed or completed projects. Our only evaluation must be based on watershed protective measures performed on pilot watersheds, one of which has been completed in Indiana known as the Flat Creek Pilot Watershed. It should be pointed out that on work done on pilot watersheds, particularly the assistance and cooperation that may be received from the local community, will vary greatly from the program now envisioned under the small watershed program. On the Pilot Watershed, federal expenditures were not limited on a sharing basis, such as is incorporated under the application of the present projects. The Federal government was permitted to initiate experimental practices and to foot the bill for same. As a result, some such pilot programs were formulated by the technicians without sufficient consultation or explanation to the landowners within the proposed development area. In many cases, these proposals were not accepted by the landowners on which properties the practices were to be initiated and some difficulty was encountered in getting the overall plan under way.

Under the present small watershed project, the work plans clearly define the participation between the local sponsoring organization and the Soil Conservation Service. The sponsoring local organization acquires without cost to the Federal government such land, easements, or rights-of-way as will be needed in connection with the construction work. They also give assurance that landowners or water users have acquired such water rights pursuant to state law as may be needed in the installation and operation of the improvements. If the sponsoring local organization is interested in other than flood prevention, they pay construction costs in proportion to direct benefits for irrigation, drainage, and other agricultural water management, including contracts.

The Soil Conservation Service will bear the costs of all engineering services applicable to works of improvement for flood prevention and irrigation, drainage, and other agricultural water management.

For works on non-agricultural water supply such as, municipal, industrial, and recreational developments, the local people must pay all costs including engineering.

The Service provides engineering and other contributions in connection with surveys, designs, layout, technical guidance in contracting procedures and inspection services for those works of improvement whose costs are allocated to flood prevention in agricultural water management.

Before any expenditures can be made by the Soil Conservationist Service, it is necessary for the local organization to obtain agreements from owners of not less than 50 per cent of the land above each flood water retarding structure. These owners must carry out conservation plans on their land. The local organization also provides assistance to landowners and operators to assure the installation of these land treatment measures and they encourage landowners and operators to operate and maintain the land treatment measures for the protection and improvement of the watershed. They must also be responsible for the operation and maintenance of the structural works by actually performing the work or arranging for same in accordance with prior agreement.

It would appear that the future success of the small watershed program would greatly rest on the continuing authority of these local organizations. If this local committee is simply made up of elected officers with no authority to see that provisions, particularly operation and maintenance measures, are carried out, then it may be expected that certain landowners may not abide by the ruling. It appears logical to believe that such a local organization should have constituted authority wherein it can enforce regulations. A conservancy district would assure this enforcement. Such an enabling law has been passed in our state.

There is a major difference between the Watershed Protection and Flood Prevention Act and the Corps of Army Engineers or Bureau of Reclamation Projects. On small watershed projects, the dealings generally apply to privately-owned land, but can also include publically-owned tracts. The U.S. Fish and Wildlife Service does not have as firm legislative authority or the type of departmental agreements necessary to guarantee even minimum loss mitigation or resource enhancement on these watershed projects. It is strictly a reviewing and reporting agency.

Furthermore, the Soil Conservation Service will have a big enough task trying to sell their own programs to the local people in the watershed and can be expected to push wildlife considerations only to the extent to which it fits into the overall plan for watershed protection and flood prevention. If wildlife practices are to be given impetus, particularly from a financial standpoint, then it must be the responsibility of the state conservation agency. The local committee as well as Soil Conservation Service personnel assigned to the particular watershed can point out or recommend that certain land treatment practices include wildlife management. The fish and game organization, through its own representatives, should then make final arrangements for actual initiation of the practice on a cost-sharing basis. In our state, this may be through the establishment of small habitat areas leased for a period of 10 years. Under Pittman-Robertson participation, fencing costs may be assumed and wildlife trees and shrubs provided, along with herbaceous material and annual grains. Multiflora rose is also available for surrounding such habitats or establishment of living fences elsewhere within the watershed area. These habitat areas may include eroded land, farm ponds, or other isolated parcels of land that do not fit into other land treatment measures. In fact, the state should assume the responsibility for drawing up specific recommendations for a detailed wildlife improvement program for each watershed project.

It is evident that wildlife improvements and benefits will vary with each project. In sections of our state now subjected to intensive farming practices, the addition of good soil conservation practices as land treatment measures should be of value. Such areas at the present are often over-cropped. Sodded waterways, contour farming, revegetation of eroded areas with herbaceous and woody cover, should be on the plus side of the ledger. Conversely, on other projects where submarginal land and idle acres are much in evidence, the planting up of idle land with pines or other trees will simply add more of the same on land that already contains too much cover for rabbits and quail and in blocks too small to support good woodland game species, such as deer and grouse. Furthermore, if retirement of land of this type is used to justify more intensive cropping measures on fertile valley sites in the same watershed, this also exerts detrimental effects on small upland game. Channel widening or re-dredging with removal of adjoining cover often eliminates the only travel lanes and permanent cover in such areas. Wetlands could be drained at these locations.

Floodwater retarding structures should add water and perhaps additional cover distributed throughout the small watersheds. The sediment pool designed to fill up in not less than 50 years should support fishing. The depth of most such pools will average around 10 feet at the dam and should not be subject to winter kill in our state.

The detention pool, which will fill up only periodically will not enhance fishing possibilities. It is understood that one state has made contributions of \$100 per acre foot for enlargement of the sediment pool. The ratio of sediment pool and detention pool acreages may vary considerably. In flat valleys, where the sediment pool may spread out, the value for fish management is much greater than on steep gradient where this portion may simply create a narrow strip.

As ownership and management will remain with private landowners, usage for fishing and hunting rests with them, unless some management plan is initiated by the local watershed committee. Here, it might be well for the states to enter the picture with purchase of adjoining land for future public use. There is also no firm ruling on how the detention pool areas will be handled. There is no present prohibition against farmers cultivating down to the edge of the sediment pool.

Observations made on the Flat Creek Pilot Area on fishing showed one landowner welcoming fishermen. Another had his posted with "No Fishing and Trespassing" signs. The pattern may be quite similar to the old W.P.A. lakes. However, these easements contained a clause that guaranteed ingress and egress to the public.

Small watershed plans will be beneficial to wildlife to the extent in which the State Conservation Agency wishes to enter into this program. Many wildlife improvements can be incorporated into them; some to replace damages that may accrue elsewhere on the area, while the pattern may be quite beneficial wherever applied on others. It should be remembered that this is a joint endeavor between the local organization, including state agencies, and the Soil Conservation Service and other federal agencies, with landowners being primarily interested in better improvement of their farms for agricultural pursuits.

MR. OLDS: In Ohio still stand ready, able and willing to get most results in interest of wildlife co-operation.

WILDLIFE IN THE FEDERAL SMALL WATERSHED PROGRAM AND STATE-FEDERAL COORDINATION - OHIO

(Statement by Hayden W. Olds, Chief, Division of Wildlife, Ohio Department of Natural Resources)

The conception of Public Law 566, the Watershed Protection and Flood Prevention Act was undoubtedly well planned and enthusiastically performed by the expectant parents but the delivery and resultant growth of the offspring has seemingly aborted in Ohio. Parents, both actual and foster, are somewhat frustrated by the failure of the youngster to respond as was expected because of the careful attention and effort bestowed during the process of up bringing.

Before attempting an analysis of the foregoing statement a review of the somewhat dubious results obtained by Public Law 566 as it has operated in Ohio will be helpful. Preliminary to Public Law 566 two pilot watershed projects were established in Ohio, one of which has now been cancelled and the other, while offering a real potential, has been slow in actual accomplishments. Actually a plan to place this pilot watershed under the provisions of Public Law 566 was rejected in Washington.

The story of projects established under Public Law 566 is as follows: The proposed Timber Run Project was turned down by the State Advisory committee on the basis of insufficient damage.

Conotton Valley Project has been studied and surveyed for potential flood damages that might be credit as offsets for federal costs. Because of the small amount of actual and potential damages in this valley, the only practical thing that has resulted has been work on the stream through and immediately below the town of Jewett. There is some disappointment downstream, particularly in the town of Soio that wanted to tie the proposal into a water supply project and also, fear on the part of the community of Bowerstown, and on down that the stream dredging and channel straightening proposed as a solution of the problem in Jewett will aggravate their problems. Both SCS Engineers and Muskingum Conservancy Engineers are sure this damage, if any, would be so small to be immeasurable. Nevertheless, the people in the watershed below Jewett are now opposed to continuation of the original project. The town of Jewett can still go ahead if they wish.

Tinkers Creek Tributary, on the Cuyahoga River in Northern Ohio, was rejected by the State Advisory Committee again for insufficient damages. A few years ago the Ohio Division of Wildlife contemplated the purchase of land in this vicinity for public hunting but since 1954 the following conditions have developed: 1. Industrial development in the past years has been phenomenal. The Ford Motor Co. has recently completed a plant 10 miles northwest of the Tinkers Creek Area which employs 1500 people. Chrysler Corporation is completing a 58 million dollar stamping plant in Twinsburg which is two miles northwest of the project lands. This plant will initially employ about 4,000 workers. Six miles south of proposed project near Hudson, the

Euclid Division of General Motors Corporation is building a new factory which reportedly is costing 135 million dollars and will employ 3500 people. The Erie Railroad has optioned 1700 acres of farm land one mile east of the project at prices ranging from \$600 to \$1500 per acre. This tract is being advertised in National magazines as an industrial site "U.S. News and World Report, May 10, 1957, page 105". It was reported that these options have been renewed as they expire indicating a continued interest in these industrial locations. 2. The residential developments have sprung up close to the project and many new homes are being constructed along the hard surface boundary roads. It is anticipated that by 1960 an additional 15,000 workers would be living in the Twinsburg-Hudson area. This means an increase of about 50,000 to the present population. 3. The Ohio Turnpike is now completed and open to traffic and is located only one-half mile from the project lands. It was evident that many industrial sites are for sale near the turnpike. With the approval of the Cincinnati-Conneaut Turnpike, northeast Ohio will have available, a complete network of all major transportation facilities. Finally landowners are opposed and even antagonistic with respect to any planned conservation uses for the land which they own, as speculation is the order of the day rather than conservation. It would appear evident as to why the Wildlife Council believed it advisable to abandon a former interest in this area as a Public hunting site or why the landowners would be particularly interested in the provisions of Public Law 566 except as Federal Aid Funds might be available for their particular advantage. Definitely flood control was not a major factor.

The Marsh Run Project was sponsored by the Celeryville Conservation District composed mostly of muck-farmers who apply their efforts to a specialized type of vegetable growing. The efforts of the Celeryville Conservation Conservancy District met with indifference and actual opposition by the people in the upland part of the district who were unwilling to permit the survey teams on their lands in order to get a complete picture of the damages and potential solutions. Such antagonism threatened to kill the entire plan but an alternate plan has provided for off stream storage reservoir, some stream improvement that the marsh people believe will be very valuable and to this extent the project may possibly succeed.

The Tiffin River Project, including two counties in Michigan and two in Ohio, is dormant pending a decision of U. S. Corp of engineers on what they will propose on the main channel and whether or not it is expected by the local people.

The Upper Wabash Project, as proposed, has been studied and a tentative plan prepared, which calls for some channel improvement and land treatment on the Upper part of the stream, and impoundment basin, and considerable channel widening for some considerable distance. There seems to be very little question but this one is practical and economically feasible if the local people can work out an agreement among themselves on right-of-way, easements, cost, etc. The drainage aspects of the project, however, might result in some harmful effects with respect existing game and fish resources.

Just recently an application has been received with respect to a Chippewa River project in north Central Ohio but not enough study has been made to even form an opinion as to whether there are good possibilities for its success.

It can be readily seen from the foregoing account of Ohio's efforts that expectations of Public Law 566 have not been achieved, however, blame can not be placed on Federal or state personnel involved in the administration of the act in Ohio. You will recall that the 1954 Convention of the International Association of Game, Fish and Conservation Commissioners held in Seattle, Washington, through resolution No. 2 petitioned the Governors of the several states "that his advisory board considering projects as authorized by Public Law 566 have thereon a representative from each agency having natural and renewable resource responsibilities operating within the states governmental framework and further providing that if such advisory board has not already been appointed without representation thereon as recommended herein, additional appointments, as necessary be made". In Ohio our department of Natural Resources is charged with this responsibility, the Chief of the Division of Lands and Soils specifically so. The Divisions of the Department include Water, Soils, Forestry, Geology, Parks, Shore Erosion Control and Wildlife. The divisions of Lands and Soil, Water, Forestry, and Wildlife have all been welcome members of the survey team and at the present time are working on the last project mentioned above. Cooperation with the Soil Conservation Service has also been excellent.

John W. Ferguson, Chief, Division of Lands & Soils, Ohio Dept. of Natural Resources, summarizes the success of Public Law 566 in Ohio or the lack thereof as follows: "Although" "works of improvement" now include "the conservation, development, utilization, and disposal of water" presumably on the same level as "flood prevention", in actuality, this is not true, i.e.,

1. Technical help only (no financial aid) can be given to water conservation aspects.
2. One might as well not submit an application to Washington dealing only with water conservation because the policy is to assign very low priority to such applications.

Briefly, the U.S.D.A. does not apparently realize that, in many areas and states, including Ohio, the Conservation of water is as important for national defense and the general public good, as flood prevention or erosion retardation.

MR. EVANS: Expressing views on way watershed has been operating last year. Agree with Mr. Olds. Hasn't done anything yet to benefit wildlife. Projects are good - don't do quite as much damage to wildlife as others. Tendencies to destroy too much existing cover. Local people responsible for overall water and resource management. Lot of acceptance of proposals. Most Agricultural groups in Illinois are interested in hastening this along. Every state should have somebody in attendance at the watershed conference at Atlanta, Georgia.

MR. BARNES: Projects approved by Soil Conservation Service. If water is roped off more rapidly within main stream the retardation more than offsets water that goes through main channel. One feature

of program is contribution which will be received from local community. One project in Indiana where money has been raised for building of retarded structure. They must also have enough money to assure Soil Conservation Service that this will be properly operated.

MR. BUE: Going to rouse waterfowl habitat. Good pothole very difficult to replace.

MR. WELLS: How much is allowed for fencing?

MR. BUE: Legislation of \$200. for fencing per acre. Not too bad on real good land.

MR. RUHL: All of us will need to develop ways of getting right amount of money and personnel to handle this problem.

MR. KIMBALL: We are involved in this program, too. Major concern is Ten Mile Creek. Soil Conservation Service is trying to develop plan which is not as destructive to wildlife.

(Noon recess was taken)

MR. H. R. MORGAN presided over the afternoon session.

LEGISLATION - GENERAL DISCUSSION

Program reports on recent legislation. Wetlands acquisition, finances, water use, etc.

MR. CLARKE: We had no great problems with legislation.

MR. FABER: Conservation officers received a small salary raise. We also had small increase on hunting and fishing fees. All women require licenses. Residents under fourteen do not have to have a license. We had miscellaneous nuisance things that were corrected.

MR. PALMER: We just finished our legislation. There was an increase in our fishing and hunting licenses--from \$1 to \$2 for fishing licenses and from \$2 to \$3 for hunting licenses. Increase game season from October 15 to March 15. Made it possible to release quail or any game birds that can be released. We also have a deer season beginning in 1957. October 1 to 15, bow and arrow. November 1, 2, and 3 for shotguns with slugs only. Limited to counties of state in which there is enough population of deer. All game seasons are set by administrative order. Passed park stamp bill for \$2 season pass for all state parks. Fund set up as state park fund to be used for rehabilitation of the parks.

Appropriations - By 1957 we will have \$17,000,000 for conservation appropriations. Park bill passed House 137 to 12. Had both Senate and House approval.

MR. BARNES: Last legislature put through a bill which put conservation officers on bi-partisan basis. We are about to pass the conservancy act. Provision was declared unconstitutional. Another bill was passed adding increase of 50% to each license (resident and nonresident), for acquisition of public hunting and fishing areas development and maintenance. Money will be available for use on federal aid projects and state projects.

We do not have free license permits. The free permit was ruled unconstitutional by the Indiana Supreme Court. After one year of operation without the free permit, we had an increase of 230,000 resident hunting, fishing, and trapping license sales.

Boating - The legislature gave our conservation officers the authority to enforce motorboat laws.

MR. WARDERS: Our license fee increase bill did not reach the floor of the legislature. We hope we have better luck next session.

MR. BIRCH: I feel very happy about our last session of legislature. We obtained license revenue to build fishing sites and ramps. We obtained license increases from two million dollars to two and one-half million dollars. Land acquisition for both game and fish amounts to a goodly portion of those monies. Other benefits--obtained right to establish five experimental game areas. One big factor--income from park use - we lost on that. Recommended two-dollar annual sticker per car - one day not to exceed 50%.

MR. WOLLAN: During the 1957 Legislative Session, 135 bills were introduced which directly concerned the Game and Fish Division. Of this group, 34 became law and by far the majority of this group were division sponsored bills.

We had good working relationship with the Legislators in that Commissioner Selke's office was open to legislative members at all times and Director Kimball and myself attended all committee meetings either during the day or at night whenever bills pertaining to our division were to be discussed.

We believe we were quite fortunate in having many of the division bills passed and were able to explain to the satisfaction of the committee the undesirable features in many of the other bills so they usually died in the committee.

I would like to briefly touch on some of the bills passed which we believe were beneficial to our operations.

1. The Legislature recognized the importance of our program in acquiring and developing wetlands and imposed a surcharge of \$1.00 on all small game hunting licenses. This surcharge is to remain through 1961. As a result we will have approximately \$342,500 per year to spend in acquiring wetland areas and for a period of at least four years.

2. The game wardens have been granted the right to inspect fire arms in the field or in motor vehicles; in the past the wardens have been doing this but they could have been refused this privilege.

3. An outboard motor may be attached to a floating craft used in hunting migratory waterfowl and need not be removed when the water craft is beached, resting at anchor, or fastened within or tied immediately alongside of any type of hunting blind. The Minnesota law on this subject is now practically identical with the Federal law.

4. We are prohibited from stocking fish in any of the waters of the state to which the public is denied free access and use. This will encourage property owners and organizations to assist in our efforts to obtain public access sites.

5. Minnesota introduced grayling in several lakes but until now they could not be fished as the Commissioner did not have authority to prescribe seasons and limits.

6. Strictly as an experiment, the Legislature authorized the Commissioner upon petition of 10 resident licensed Minnesota hunters to close a described water area as a migratory waterfowl feeding and resting area and when duly posted it shall be unlawful for any person to enter during the open migratory waterfowl season with any boat propelled by a motor. This act is limited to not to exceed five lakes, is effective only until December 31, 1958 and specifically names two lakes which are to be included in the total of five.

7. Authorization has been granted the Commissioner to open the game refuges for hunting if he determines that there is a harvestable surplus of wild animals. In the past, his authorization was based upon an abundance in excess of the refuge to support or where the game were doing substantial damage to agriculture or forest crops.

8. The time during which the Commissioner may open the deer season was advanced from November 10 to December 1 to November 1 to November 21. In order to have a nine-day season which is essential in some portions of our state, it was necessary to open the season on November 9 and there have been a large number of hunters who have objected to this earlier date; however, only by trial can we find out the effectiveness of it.

9. The Legislature has authorized the Commissioner to have a late bow and arrow season between December 1 and December 31 in any area of the state he may designate south of a line starting at Moorhead going east to Brainerd and Duluth.

It has been interesting to hear how successful some of the states have been in getting increased license fees and no doubt it will be necessary for us to attempt this in 1959 and your success should work as an aid in our efforts.

MR. TOWELL: Water pollution control law. This sets up a six-man water pollution control board. Gives this board authority to investigate complaints of pollution and to decide what measures should be taken to alleviate same.

Important to administrator--a state retirement bill for all state employees. Bill died in the last days of the legislature. This would have been used to supplement employees' social security.

Another bill permits establishment of subdistricts in Soil Conservation. Also new laws which would give Conservation Commission title to all newly created sand bars, islands, etc.

MR. STEEN: Our legislation was very successful. We introduced 40 major changes and passed 38. We were not confronted with partisan politics in the setting of seasons, limits, etc. A controlled shooting law was passed. We also passed a pollution bill and created a pollution control council. Took the bullfrog off the unprotected list and put it on the protected list. Took the horned owl off the protected list and put it on the unprotected list. The minimum fine for taking whooping cranes is now \$100.00. We passed measures which would increase income of department in these next few years by approximately 50%. A park use stamp bill was passed.

MR. BUE: Legislation was both good and bad. Increased appropriations for department. Decreased bow license for deer from \$50.00 to \$25.00. A renter can post land. You have to ask permission from landowners to hunt on fields where there are unharvested crops. We plan to open season on non-migratory waterfowl on the last Friday of September at noon. Some of the license increase is earmarked for bounties and \$110,000.00 was appropriated for our game and fish bounty fund for each of the next two years. We hope to eliminate the bounty completely. Decreased payment on fox from \$3.50 to \$2.00. Last year bounty payments decreased to about \$55,000.00. Put tree squirrels on protected list. Land acquisition progressed rather slowly, due to lack of funds.

MR. OLDS: Funds were placed in budget of Division of Lands and Soils for employment of engineer who will work as a liaison man. He will work with landowners with draining problems. A bill was passed giving free licenses to those over 65 years of age who are on relief. A nonresident who owns land in Ohio does not need a license to hunt on his own land. Park use stamp was not passed.

SOUTH DAKOTA WAS NOT REPRESENTED (Mr. Steen of Nebraska gave report.)

We understand that they had a pretty good legislative session.

MR. SPRECHER: We had a good legislative session, too. We introduced 24 bills and 20 were passed. The session was over on June 27 so a lot of bills have not yet reached the Governor's desk. There was an increase in resident licenses: Fishing - from \$1 to \$2; Small game hunting - from \$2 to \$3; Big game hunting - from \$2.50 to \$4; Voluntary sportsmen's license - from \$6.50 to \$10; Trapping - from \$1.50 to \$2.

Group deer hunting license bill - Provides a license for killing of any deer of any size for each four regular hunting licenses issued. Whether or not there will be an open season will depend upon commission. We lost three revenue bills. One was trout stamp bill. We will come back in September to review Governor's vetoes. There is a possibility of a park sticker bill being revised.

Forestry bills passed - Forest pest control law--we will tighten up collection of money for spraying and returning money to conservation department.

Fish management - Brought power of removal of detrimental fish from our lakes and streams. Our panfish are causing us trouble. They can be removed in the same manner as carp. We have strict bait dealer's license/laws. We set up calendar year for fishing licenses. Management of fish population in our lakes is entirely within the jurisdiction of the commission.

Sturgeon spearing law failed to pass, probably because of an increase in the price of tags.

The bill on trolling did not pass. A resolution was passed to set up five lakes for experimental study.

Game Management - Repealed raccoon tag. Raccoon population is too high. Wild geese to be held in covered pens. Removed bounties on timber wolves and brush wolves. Passed bill which would give the Conservation Commission control over all of the fish and game that are normal in our lakes and streams. Bill passed providing for humane treatment of animals on licensed game farms.

Reduced restrictions on hunting from 14 to 16. Must be accompanied by legal guardian.

Also strengthened the guide license law and increased fees. One of the most important things was that the bounty law was repealed so that the funds and the authority to pay bounties in the State of Wisconsin has been entirely repealed.

Another important forward step is that the Conservation Director has been added to the Soil Conservation Service Committee.

We received very definite improvements to our salary. All civil service salaries were raised. Fringe benefits were provided, such as group insurance - all employees are entitled to take life insurance @ \$.60 per \$1,000.00, up to limits of their salaries. Retirement benefits increased. Also raised Director's salary \$400.00 per year.

EXOTICS AND HYBRIDS IN FISH MANAGEMENT

(Statement by John Van Oosten, U. S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Ann Arbor, Michigan).

The introduction of exotic and hybrid animals is still a controversial issue largely because of some good results, of the many failures of the past, the havoc wrought among native species, and the creation of new nuisance problems by successful introductions. The carp, the English sparrow, and the starling are well fixed in the public's mind as outstanding examples of successful introductions with undesirable results.

In the past, fishery people had a mania, like the game people, to introduce new species into their state. I may illustrate this fact by the introductions of the exotics in my home state of Michigan which followed the trend of the time. Exclusive of the uninvited pests such as the English sparrow, starling, house mouse, and Norway rat, Michigan tried to establish in various sections some 14 kinds of game and fur-bearing animals, only one of which made a real success, the ring-necked pheasant, and another a limited success, the sharp-tailed grouse. Some 19 exotic species of fish were introduced and reintroduced at various times. The Atlantic salmon, rainbow trout, shad, landlocked salmon, German whitefish, eel, and goldfish were first introduced in the 1870's; carp and brown trout in the 1880's; black spotted (Colorado) trout in 1895; Montana grayling, smelt, chinook salmon, Rocky Mountain (Oregon) stream whitefish, silver salmon, western cutthroat, Japanese trout, Cascapedia trout (Quebec), and the mosquitofish (Gambusia) were brought in after 1900, nearly all of them before 1930. Only 5 of

these 19 species (rainbow and brown trout, goldfish, carp, and smelt) have become permanent residents, only 3 of which have really benefited Michigan's economy. In addition to these 5 exotics, species native to the state were also introduced into new waters. The results were highly successful with the brook trout but not with the whitefish. Transplantations of such species as walleyes and lake trout met with fair success. Two other exotics came to Michigan without a passport--the devastating sea lamprey and the apparently useless alewife.

The history of introductions of the other north-central states is similar to that of Michigan. The western states, however, imported many more exotics, most of them from the east, than the north-central and eastern states, because they had relatively few species of game and food fishes. For example, Nevada introduced some 36 outstate exotic fishes since 1873. Eleven of these were established successfully (brown, rainbow, and brook trout, carp, channel catfish, black and brown bullhead, mosquitofish, yellow perch, largemouth black bass, and Sacramento perch), nine with limited success, and thirteen unsuccessfully. In the Pacific Northwest (Oregon, Washington, British Columbia) at least 25 species were imported of which 14 were established successfully, 5 only in restricted localities, and 6 unsuccessfully. California introduced 35 varieties, at least 10 of which have become well established.

In importing exotics, Michigan and other states intended to supplant certain native fishes with better food and game fishes or to improve, vary, and extend the fishing or, in the case of the Great Lakes smelt, to furnish food primarily for the introduced landlocked salmon. Michigan is again introducing the Montana grayling, but this time not primarily for fishing purposes but to establish a "museum piece" population for exhibitional and educational purposes.

It was not generally realized in the early years that environmental and climatic conditions were limiting factors in the range of many of the introduced exotic species or that the introduction of new varieties might completely upset the balanced biota and the ecological relationships of the native fish fauna in a lake or stream and thereby do more harm than good to the fishing. Today we can perhaps have a little more scientific approach to the problem of introductions. We should no longer use the hit or miss method of the past, the promiscuous plantings that have generally been futile and wasteful, especially in the Midwest. We now know more about the physiological and ecological requirements of fishes and about their environments than the old-timers, although we still have much more to learn. We should now be able to determine with greater accuracy the prospects of success, with desirable results, in introducing an exotic into new waters. We must take precautions in avoiding the introduction of new diseases and parasites, the undesirable hybridization with the native stock, and the crowding out of the desirable native species. We should approach with considerable caution and careful study any decision on the introduction of an exotic species. We should give plenty consideration to the idea that it may be wiser and better to improve the environment in the interest of our good native game and food fishes.

I think that we fishery people are now quite fully agreed that exotics foreign to a state or region in this country should as a rule not be introduced, except in certain situations. Those species that

are native to a region should be preferred for introduction into new waters. Exotics should be considered only for introduction into suitable barren or unused waters or into waters where they would actually improve the fish resources and fishing. No exotics of any kind should be planted in waters where the native species already provide good fishing or where it would be possible for the exotics to migrate into contiguous waters where they are not wanted. So much for the exotics.

Our recently developed points of interest in hybridization involve such items as overpopulation, the stocking of farm ponds, improved growth rates, disease-resistant fishes, better acclimatization, improved vigor and fighting qualities, and genetic relationships that involve nomenclature and speciation. I do not want to contend that all of these objectives are new. It is true that the early fish culturists did not always have a specific purpose in mind. Some were merely curious to see what would happen when crossing species (lake trout x whitefish, brook trout x lake herring and California salmon, marine shad x marine striped bass and herring). Others ran short of milt in artificially fertilizing eggs and used the available milt of other species hoping that the eggs would not be wasted. However, some did hope to improve the fishes as was done for fruits and vegetables, and to produce varieties that would be better suited to different waters.

With our technique of determining age and growth based on scales, we can now ascertain with greater certainty whether a species in a lake is overpopulated and dwarfed. One method to correct such a situation is the introduction of a sterile predaceous hybrid. In most of our midwest lakes the dwarfed fishes are either sunfishes or yellow perch. The best prospects for controlling these species with hybrids in this area are crossings between the muskellunge and northern pike. Experiments conducted in Wisconsin and Minnesota indicated that, although these female hybrids were capable of reproduction, their fertility appeared to be low and the males were probably sterile. In that case there would be no possibility of reproducing in the lake, and the hybrid population could not increase and threaten the extinction of the resident populations.

The cross breeding of these species was also carried on in the hope of developing, as expressed by Ray Johnson, "faster growing, gamier, disease-resistant fish." I do not know whether these objectives have been reached. Eddy (1944) reported that the fry and fingerlings of these hybrids seemed to be hardier than the young muskellunge and that in some years, but not always, they grew faster than the muskies. Several female hybrids developed eggs but they did not ripen and were not released.

Thousands of farm ponds have been stocked with largemouth bass and bluegills or other sunfishes. A common difficulty that usually develops is overpopulation of the sunfishes that results in dwarfiness of all species in the pond. Black bass are relatively ineffective as predators and may even be eliminated from the pond. One of the methods suggested to maintain a population balance in the ponds is the stocking of sterile sunfish hybrids. Hubbs and Hubbs (1933) found that hybrids from several combinations of sunfish species were sterile and were predominantly males (81-95 percent) but all of them grew faster than their parents and reached a much larger size as adults. All attempts by Hubbs to fertilize the eggs of these hybrids were futile. However,

Lagler and Steinmetz (1957) found from experimental evidence that pumpkinseed-bluegill hybrids could be fertile. Ricker (1948) reported that hybrids from male bluegills and female redear parents contained only 2 percent females, but they did produce a second generation of hybrids all of which, however, were males. These bluegill-redear hybrids also showed excellent growth.

The discovery that some sunfish hybrids were fertile has dimmed the possibility that these fishes could be used in stocking farm ponds without danger of unbalancing the population. However, benefits may still be obtained because of the low reproductive potential resulting from heavy predominance of males. Sunfish hybrids would still be excellent for stocking ponds not only because the rate of reproduction is so slow that overcrowding, if it occurred at all, would be delayed for a long time but also because of their rapid growth throughout life.

The recent development and production of hybrids from lake and brook trout in Canada since 1946 has created considerable interest and publicity. These hybrids have been christened by different groups as splake, moulac, and wendigo. The experimental hybridization of these trout is, however, not new. Seth Green conducted such successful experiments in the 1870's. Others did the same in Pennsylvania in 1886 and in Michigan in the early 1900's. T. H. Bean (1889) described in detail the characteristics of these hybrids.

The reports on the recent experiments in Canada are to a certain extent repetitions of reports of the early years, except that the recent program was carried out farther in order to learn whether the progeny of the hybrids could reproduce. Experiments were conducted through third generation hybrids. It was found that the cross between female brook trout and male lake trout resulted in a large percentage of fertilization but many of the fry developed a deformed caudal fin and died, apparently because the brook trout egg was too small for the large embryo. When female lake trout and male brook trout were crossed, the percentage of fertilization was as high as that of the true species and no deformed fish appeared.

The length of the hatching period was about the same in the hybrids as in the parents. Both the first and second generation hybrids matured in a normal manner, but at an earlier age than the lake trout (2-3 years). However, losses of eggs and fry of the second generation were nearly double that of the first (25 and 49 percent) and the percentage of survival to the fingerling stage of the second generation hybrids was 25 percent less than that of the first generation (51 and 75 percent). Better results were obtained when the splake were backcrossed with brook trout. The first generation hybrids grew faster than their parents but the second generation appeared to be weaker and grew more slowly than the first, but they did reach about the same size as the brook trout.

From the published reports it now appears that hybridization should take place, if at all, between the female lake trout and the male brook trout rather than the reverse, and that the second generation hybrids should not supplant the pure stock since they showed no improvement over their ancestors; the first generation should be backcrossed with brook trout.

The Canadian National Park biologists reported that the lake-brook trout hybrids were better suited than their parents to the environment

in many areas and to the demands of the anglers. They stated that these hybrids grew faster than the brook trout, and were better acclimated to cold water (10-15° colder). The hybrids were much more active, fighting like the brook trout, and more easily taken on a fly than the dogged lake trout, since unlike the lake trout they fed much of the time on surface materials. These characteristics made them more attractive than the parent species to anglers, and the Canadian National Parks Service, therefore, adopted a stocking program of these hybrid trout. Ontario also planted these hybrids in about a dozen lakes scattered across the province.

Baldwin (1956) reported that in the lake in summer the splake concentrate in the upper layers of water, generally used by speckled trout, rather than in the deeper water occupied by the lake trout. He also reported that this vertical distribution may explain the fact that the hybrid trout in South Bay, Lake Huron, were relatively free of sea lamprey attacks whereas the lake trout of the same size planted in the Bay were heavily attacked. Consideration should, therefore, be given to the planting of splake in the Great Lakes (provided of course that they reproduce well under natural conditions) since they seem to be able to avoid many attacks by the sea lamprey.

The fact that the splake were fertile through at least two generations has convinced the taxonomists that the relationship between the lake and brook trout is closer than it has been thought to be in the past, and they have now changed the generic name of the lake trout from Cristivomer to Salvelinus. Taxonomists are also interested in hybrids in general because they often bring out the typical dominant characters of the species, at least in the first generation.

Hybridization between species of trout may not necessarily improve fishing, and may even wipe out one of the parent species. In certain lakes in the West the rainbow and cutthroat trout were cross-bred with the result that the latter ultimately disappeared and were replaced by a pure stock of rainbows. The rainbow is a dominating species among trout. The rainbow-cutthroat hybrids were less fertile than the pure parent species.

Canada also plans to develop a hybrid between Dolly Varden and brook trout in the hope of producing a fish that could make full use of the many silty lakes located in the mountains. These lakes usually fail to produce game fish. The Dolly Varden is adapted to such waters. Cross-breeding experiments were also conducted in Canada with the various species of Pacific salmon to learn whether the poorer species could be improved. So far as I know, no final results have ever been published.

In conclusion, I would say that the introduction of non-native species into a state or region should in general be avoided. A species native to a state or region should also not be introduced into new waters unless it has been determined scientifically that such exotics would improve fishing without detrimental results to the desirable resident fishes. Hybrids may serve several excellent purposes in a fish management program and biological research. We would, therefore, continue to be actively interested in conducting thorough experiments with hybrids from indigenous species, through several generations if they prove to be fertile.

Literature Cited

- Baldwin, N. S.
1956. Hybrid trout. *Sylva*, 12(3):6-9.
- Bean, Tarleton H.
1889. A hybrid between the lake trout and brook trout.
Bull. U. S. Fish Comm. (1887), 7:216.
- Eddy, Samuel.
1944. Hybridization between northern pike (*Esox lucius*) and muskellunge (*Esox masquinongy*). *Proc. Minn. Acad. Sci.*, 12:38-43.
- Hubbs, Carl L., and Laura C. Hubbs.
1933. The increased growth, predominant maleness, and apparent infertility of hybrid sunfishes. *Pap. Mich. Acad. Sci. Arts, Lett.* (1932), 17:613-641.
- Lagler, Karl F., and Charles Steinmetz.
1957. Characteristics and fertility of experimentally produced sunfish hybrids, *Lepomis gibbosus* x *L. Macrochirus*. *Copeia* (4). (in press).
- Ricker, William E.
1948. Hybrid sunfish for stocking small ponds. *Trans. Am. Fish. Soc.* (1945), 75:84-96.

PROBLEMS OF LAND CLOSURE TO HUNTERS AND FISHERMEN AND A POSSIBLE SOLUTION.

(Statement by Jack H. Berryman, Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service, Minneapolis, Minnesota).

Introduction

At the Eighteenth Midwest Wildlife Conference in Lansing, Michigan, Dr. Stanley P. Cain reminded professional conservationists that fishing and hunting are not essential to this Nation's continued survival. These are words to ponder as we consider the future role of fishing and hunting in the most complex civilization in history. What management measures can be taken to perpetuate the resource and guarantee that fishing and hunting will always be a part of the American scene, in spite of their nonessential qualities?

Fish and Wildlife administrators are aware that management has not kept pace with increasing fishing and hunting pressures and with the many other demands being placed on the land. Scientists will soon launch the first earth satellite. We might ask ourselves if we have kept pace with scientists in other fields--are sportsmen still "turned loose" to pursue their sport much as Davy Crockett did, in the gold "old American tradition?"

We no longer live in the days of Davy Crockett, and the hope that the tradition can be maintained is a delusion. The land is now "taken up." There is no longer a seemingly limitless natural resource. Rather, we find ourselves competing with other interests and trying to find a place for fish and wildlife in a complicated society. In addition to the very serious losses of habitat, much of the remaining land and water is no longer available to the public.

The Posting Problem

One of the "signs" of our times is the increasing number of "No Hunting," "No Fishing," and "No Trespassing" posters. Land closure is one of the most perplexing problems facing landowners, sportsmen, and administrators.

While posting against fishing and posting against hunting pose different problems, the results are the same--the general public is denied access to the harvest of resources owned and managed by the state.

Mr. Schorger of the Wisconsin Conservation Commission has pointed out (1) that we find ourselves in the illogical position of the state, or the people owning the game with the landowner in possession. He can post his land and the state is without power to remove a single rabbit. As long as this stalemate exists, it is doubtful if the farmer will ever become "game conscious." The problem: to break the stalemate.

What are the causes and results of posting, and what does this mean in terms of management?

Ohio is one of the most densely populated states in the central United States and has one of the largest percentages of privately-owned land. An Ohio survey (2), conducted in 1951 throws light on problems that exist over most of the Midwest. This survey found that the greatest causes for posting were nuisance and damage. Approximately 30 percent of the farmers had experienced damage from hunters, including damage to fences, livestock, crops and poultry. The hunter also has a high "nuisance value." Approximately 45 per cent of the farmers reported nuisances, including shooting near buildings, hunting out of season, road shooting, gates left open, and so on. In spite of damage and nuisance, only 4 per cent of the land was actually closed to public hunting, although 34 per cent was restricted to use by friends, relatives, clubs and groups, and 56 per cent was open only with permission. Only 6 per cent of the land was open to unrestricted hunting.

Hunting pressure and damage are not alone responsible for the posting of farm lands. North Dakota has fewer license buyers per square mile than any other state in the Midwest. A 1955 survey (3) indicated that in Dickey County, which experienced some of the heaviest hunting pressure known in North Dakota (6.5 hunters per section an hour after the opening of the season), 40 per cent of the land was posted. The amount of posted land in other counties had increased since 1954.

It is to be expected that as populations and hunting pressures increase, so will damages and nuisances and the amount of posted lands. But the North Dakota survey indicates there must be other reasons, perhaps even more serious. Resentment is no doubt an important factor. Many owners desire to exercise their right to full possession and the exclusion of all others.

The most obvious result of posting is fewer places to hunt and fish. Although posting does not necessarily mean that there will be no hunting, it does restrict and reduce hunter use. A second result

is a reduction in the harvest of animals. This adds up to the fact that complete management is not being realized on posted lands. We might ask if the sportsman, who is paying for management, is getting a "fair shake" when the state is unable to manage that portion of the land closed to hunting, and the animals produced are not available for the harvest. Of what value is a management staff of biologists--of what value are surveys and other techniques if a very substantial portion of the land is closed to the harvest--the essence of management? And, what of the long awaited bumper year when the surplus, along with years of effort, stands inviolate behind the "No Hunting" sign?

The Broader Problem

Is posting the problem with which we are really concerned, or is it a symptom--a danger signal? Could it be that posting is actually the result of management's failure to properly manage private lands, and that posting and the more serious problem of widespread habitat destruction are indications of management's failure to keep pace with rapidly changing conditions? Management is not responsible for poor manners, but many of these more superficial problems could be resolved through the proper management of private lands.

Before posting can be placed in its proper perspective, it is necessary to analyze some of the factors responsible, such as population growth, land ownership and economics.

Our present population of over 165 million will increase to over 225 million by 1975 (4) and will probably reach 300 million by the year 2000.

From 1946 to 1956 fishing license sales increased 68.9 per cent; hunting licenses 46.8 per cent; and, Duck Stamp sales 37.3 per cent (5). It is significant that roughly 17 per cent of the adult population goes fishing and 13 per cent goes hunting.

But, these population and license sales figures cannot be fully appreciated unless translated into terms of pressure per square mile. For example, considering total state area, Michigan has 20 hunting license buyers per square mile; Ohio 15, Wisconsin 10 and Illinois 9 (5).

What will these pressures be when the population has doubled, and when the numerical license increase is compounded by automation, the 20-hour week, and many other changes that will be wrought by the so-called "second industrial revolution?"

This Nation's land ownership pattern requires that administrators concern themselves with private land. Of the total land area of the United States, 70.6 per cent is in private ownership (6). In the Midwest, the percentage is higher. In Illinois for example, 98.6 per cent of the land is in private ownership; 97.9 per cent in Ohio; 85.3 per cent in Wisconsin; and 79.4 per cent in Michigan (7). Any program capable of meeting the pressures with which we are faced and benefiting a major portion of the sportsmen, must bring management to these lands and keep them open to the public.

The economics of fishing and hunting clearly indicate their importance to our national economy. They also have a direct bearing on the posting problem and clearly indicate the need for correcting some obvious inequities.

The "National Survey of Fishing and Hunting" (8) showed that 25 million people fished or hunted in 1955, and spent 3 billion dollars. This placed hunting and fishing in a class with many big businesses. The survey also shows that the expenditures go to a wide variety of businesses. Of the 3 billion spent by fishermen and hunters, 1.3 billion was spent for various types of equipment; 114.5 million for food; 88.9 million for lodging; 365.7 million for transportation; and so on. It is significant that only 3.2 million, or one tenth of one per cent is clearly identified as spent for leases or privileges.

This same point is borne out in a Pennsylvania survey (9). Of the 14 million dollars spent by deer hunters in two counties, farmers received only 3 per cent. In attracting this business, the landowners sustained a loss of \$195,300 through deer and hunter damages. Thus, the result was a net loss to the landowner while he was supporting a business in which others showed a gain.

The fact is that the landowner is the recipient of a very minor share of the great amount spent on fishing and hunting--a small partner when the money is counted. Landowner realization of this fact may well be one reason for posting.

These are no longer academic or imagined problems. The solution to posting and the public fishing and hunting problem must consider the phenomenal population growth, the ownership of the lands with which we must work, and the economics of the resources with which we are concerned.

Management Tools Now in Use

Many varied management efforts are being used to accommodate mounting fishing and hunting pressures. Land acquisition, public relations, habitat improvement on private lands, and commercial hunting and fishing areas are but a few of the tools now in use. These various approaches, each of individual value, have collectively not solved the problem.

The "Third Dimension"

Up to this point fish and wildlife management has been based primarily on two fundamental considerations--the needs of the animal, and the biological aspects of its habitat. Management must now turn to what might be called the "third dimension." In addition to the biological aspects, more consideration must now be given to framing management in terms of space and time--we have been wasting both.

Regardless of ownership or status, there is only so much land area or space: space is constant. It is constant not only for fish and wildlife management, but for all of the activities of man. The problem is to fit fish and wildlife in with other uses of the land. This will require the application of some unused concepts--zoning, economic compensation, etc.

Likewise, time is constant. There are only 365 days in a year. Management has only scratched the surface in distributing fishing and hunting pressure over as long a period of time as is biologically feasible, although fish management is way ahead in this respect.

If management is going to accommodate the increasing number of fishermen and hunters it must fully utilize the time and space available. To do this, we must first bring management to the 70 per cent of this Nation that is privately owned.

Landowner Compensation

If fish and game are to be produced and harvested on private land, it becomes fundamental that management on these lands be placed on a sound economic basis. To accomplish this, it is essential that fish and game be treated as a crop and that the landowner receive a fair return from the production of that crop and for allowing its harvest.

The idea of compensating the landowner is certainly not new. It was, in fact, outlined by Leopold in the American Game Policy in 1932 (10). There are, however, many new and urgent reasons for its adoption. Whether such an approach is justified might have been debatable a few years ago--now it is one of the economic facts of life.

Landowner compensation has been attempted in various form in states all across the Nation.

What has not been attempted, however, is a concerted effort to develop a sound economic system, supported by guiding legislation, to give a fair return to the landowner. The responsibility for initiating such a system rests with the management agencies. The problem is too complex to be handled by individual landowners or sportsmen, or on a local basis. It must be supported by the agencies and the public at large.

Even the management agencies are beginning to charge for public use on public areas, and rightly so. It is only fair that we accord the landowner similar treatment.

We know that any commodity can be produced in any amount, if we are but willing to pay for it. Indeed, it can be produced in surplus--we need only to create the market to find many willing producers. This is true of tanks, planes, Fords, wheat, and corn: it is also true for waterfowl, pheasants, fish and deer.

Paying for fishing is a well accepted fact. We need look no further than the closest water to observe stream and lake front lands privately controlled, with the owners charging fees for access for fishing, boating and picnicing privileges. The resort business is based on such a system--it works very well.

The idea of compensation to the owner does not violate Leopold's "land ethic"--it proposes to accomplish through economics what we have failed to accomplish through persuasion and other means.

Are There Alternatives?

Management has no other alternative. Unless management plans are developed for private lands, we will be faced with more habitat destruction, more closed lands and waters, increased commercial areas, and the evolution of the European system which accommodates only the few. Or, protective legislation, sponsored by the landowners or commercial interests, not wholly acceptable to the wildlife agencies and economically prohibitive to the general public.

This type of situation very nearly developed during the last session of Minnesota's Legislature, when a resolution was passed by the Minnesota Farm Bureau asking legislation to close all lands to hunting without permission.

If the management agencies fail to take the initiative, two dangers are apparent--the loss of additional production and harvest habitat and the very real possibility of undesirable legislation. The question is simply this: Are we going to accept the inevitable, or take an aggressive role in determining what the future shall be?

Administrative Problems

To recognize a problem and its solution is one thing--to solve it quite another. Several real problems have prevented an earlier solution to the private land question.

For one thing, the public has not been ready for such a move. But the sportsmen have been through a "softening up process"--they have also been finding it tougher to find places to fish and hunt. They realize that something must be done and they look to the fish and wildlife agencies for action. Personal contacts indicate that the public is now more receptive to such a plan than are the agencies. In fact, we may be "running behind" the public.

Another factor that every administrator must weigh very carefully is the reaction of the press. The subject of landowner compensation was discussed at the recent Midwest Wildlife Conference (12). Surprisingly, editorial comments on the subject were extremely favorable in many Midwest newspapers.

A favorable press is a necessity--we now have such a press, ready to assist in the solution of this problem.

There remains the problem of a specific and concrete plan--such is not available.

First Steps

Perhaps we have looked too hard for a plan applicable over a state or the Nation as a whole, for all types of land and for all species. No such plan can be developed.

Perhaps the first step is indeed a simple one. The fish and wildlife management agencies need first to officially and publicly recognize the need for compensating the landowner as an underlying management principle or concept. This step has been taken by the U. S. Fish and Wildlife Service. At the recent North American Wildlife Conference, Mr. Ross L. Leffler, Assistant Secretary of the Interior

for Fish and Wildlife, pointed out that those in agriculture will decide the status of most wildlife in America and that this fact must be recognized by the public and by the fish and wildlife agencies. He explained further that the solution lies in acquiring control of key areas as necessary, and in compensating the landowners for recognizing fish and wildlife in their land management practices. It is significant that his comments received widespread favorable editorial comment.

Having recognized this as a management concept, how can it be translated into action? We should first ask why so many earlier plans have not achieved the desired results. Perhaps it is because most of the plans have been worked out by fish and wildlife personnel in game department offices. We may have bypassed some very excellent advice--from the landowners who control 70 per cent of this Nation, and from others very directly connected with this problem. The next step, in my opinion, is the naming of committees of highly qualified representatives from landowners, sportsmen, legislators, and wildlife agencies to thoroughly explore the possibilities and come up with a mutually acceptable plan. This must be accomplished on an area and species basis. The preparation of management plans for private land is going to require the best advice available and from those directly concerned and most familiar with the problem. This has not been tried--this is one way of bringing collective thought to bear on a mutual problem. This is the next step.

Summary

In summary, land closure is a facet of a growing problem of which posting is only a symptom. Even more serious is the loss of habitat, and management's inability to bring adequate management to the 70 per cent of the Nation's land under private ownership. The situation has been aggravated by population and license sales increases and by an ever more complicated civilization. Simply stated, the problem is one of bringing management to bear on private lands. In addition to the biological considerations of the animal and its habitat, more emphasis must be placed on management's "third dimension"--the full utilization of the time and space available. One means of bringing management to the space, or land area, available is through a sound system of compensation to the landowner. The first step is to recognize this as a management principle. The next is to seek the best collective advice for preparing plans and for implementing the concept for given areas and species. This is a responsibility of the management agencies.

The problems are great and as Dr. Cain pointed out, fishing and hunting are not necessary to our continued survival. But, we live in the day of the earth satellite and the North Atlantic Treaty Organization. We have solved tougher problems, and we can solve this--we must. The future of public fishing and hunting is at stake!

LITERATURE CITED

- 1) SCHORGER, A. W., 1955. Public and private shooting preserves for game birds and small game mammals. Proceedings, 45th Convention, International Assoc., of Game Fish and Conservation Commissioners, Sept., 1955. pp. 103-109.

- 2) WHITESELL, DALE, 1952. Some Ohio farmer-sportsmen problems and their relations to future public hunting. Wildlife Mgmt. Bul. No. 7, Ohio Division of Wildlife, Dept. of Natural Resources. 8 pp.
- 3) GRONDAHL, C. R., 1956. Results of the 1955 pheasant season in southeastern North Dakota. Mimeo, P-R report, Job 10, Proj. W-35-R-3. 10 pp.
- 4) ZITTER, M., 1955. Revised projections of the population of the United States, by age and sex; 1960 to 1975. Current Population Reports, Population Estimates, U. S. D. C., Bureau of the Census, P-25(13). 10 pp.
- 5) FISH AND WILDLIFE SERVICE, 1957. Records of the Fish and Wildlife Service, U. S. D. I., Minneapolis, Minn.
- 6) BUREAU OF THE CENSUS, 1956. Statistical abstract of the United States: 1956. U. S. D. C., Washington, D. C.
- 7) FOREST SERVICE, 1956. Records of the Lake States Experiment Station. U. S. D. A., Forest Service, St. Paul, Minn.
- 9) PASTO, J. K., and D. W. THOMAS, 1954, 1955. Deer economics, Reprinted from Pennsylvania Game News, XXV:11-12; XXVI:1-2, Pennsylvania Game Commission, 29 pp.
- 8) FISH AND WILDLIFE SERVICE, 1956. National survey of fishing and hunting, 1955. U. S. D. I., Fish and Wildlife Circular 44 50 pp.
- 10) LEOPOLD, ALDO, 1933. Game Management. Chas. Scribner's Sons, N.Y., 481 pp., 35 figs., 53 tables.
- 11) BERRYMAN, JACK H., 1956. Our growing need: a place to produce and harvest wildlife. Mimeo of paper presented at the 18th Midwest Wildlife Conference, Lansing, Michigan, Dec. 11, 1956. 13 pp.

ACCOMPLISHMENTS AND PLANS OF THE GREAT LAKES FISHERY COMMISSION.

(Statement by Norman S. Baldwin, Great Lakes Fishery Commission, Ann Arbor, Michigan).

The details preceding and attending the organization of the Great Lakes Fishery Commission in 1956 are no doubt familiar to most and I need only mention by way of introduction that at the present time the United States Commissioners are:

Lester P. Voigt, Director, Wisconsin Conservation Department
Chairman of the Commission

Claude Ver Duin, Secretary, Grand Haven Chamber of Commerce,
Michigan

The third position was left vacant by resignation of John L. Farley

The Canadian Commissioners are:

Andrew L. Pritchard, Director, Conservation and Development
Service, Canadian Department of Fisheries
Vice-Chairman of the Commission

William J. K. Harkness, Chief, Division of Fish and Wildlife,
Ontario Department of Lands and Forests

Arthur O. Blackhurst, Manager, Ontario Council of Commercial
Fisheries

The United States Section of the Commission will be assisted by an Advisory Committee for each of the lakes. On this committee each state bordering on the lake may be represented by not more than four members concerned with the interests of the state conservation agency, the commercial fishing industry, the sports fishing and the public at large. The advisors to the Canadian Section of the Commission will be a similar but smaller group.

The duties of the Commission as laid down by the Convention or Treaty, which are perhaps worth the risk of repetition, are as follows:

- (a) To formulate a research program or programs designed to determine the need for measures to make possible the maximum sustained productivity of any stock of fish in the Convention area which, in the opinion of the Commission, is of common concern to the fisheries of the United States and Canada and to determine what measures are best adapted for such purpose.
- (b) To co-ordinate research made pursuant to such programs and if necessary, to undertake such research itself.
- (c) To recommend appropriate measures to the contracting parties on the basis of the findings of such research programs.
- (d) To formulate and implement a comprehensive program for the purpose of eradicating or minimizing the sea lamprey populations in the Convention Area.
- (e) To publish or authorize the publication of scientific and other information obtained by the Commission in the performance of its duties.

In pursuing its objectives the Commission is directed to make maximum use of existing agencies.

At their organizational meeting in Ottawa on April 23rd and 24th, 1956, the Commission appointed an Ad Hoc Committee from the scientists gathered to advise both sections of the Commission and asked them to review the existing situation in the Great Lakes and make some general recommendations.

In considering the status of the lake trout the Canadian and United States scientists agreed that the principal cause of their decline in the upper lakes was the sea lamprey. The committee further stated that:

- (1) The most effective barrier so far developed is the electrical barrier and that installation of these should be continued.
- (2) It was highly desirable to kill the four or five larval generations already present in streams by use of poisons.
- (3) Present control devices should be improved particularly to spare useful fish.
- (4) The most pressing biological problems were:
 - (a) ways and means of restoring lake trout as the control program gained in effect.
 - (b) learning the causes of natural fluctuations so as to predict and perhaps control fluctuations.
 - (c) determination of the relation between fishing intensities and yields to form scientific basis of regulation of fishing rates for producing maximum sustained yield.

The Ad Hoc Committee recommended that the Commission appoint a standing committee of biologists to develop and review the research program for the Commission. The Ad Hoc Committee also pointed out to the Commission that there was already a long history of co-operation and co-ordination of research activities in the Great Lakes brought about by informal committees of persons responsible for research investigations and the management of the fisheries.

The committee recommended to the Commission that the present research programs of the two countries continue as they are until the Commission was in a position to indicate changes.

The Commission has up until now focused its attention on the lamprey control program. It was fortunate in finding two agencies already engaged in this work. In the United States the Fish and Wildlife Service had pioneered in the development of electrical barriers to destroy sea lamprey and prevent their spawning. A network of electrical barriers was in operation on the south shore of Lake Superior. On the north and east shores the Fisheries Research Board of Canada had installed barriers. Both agencies had been assisted in this work by State and Provincial organizations.

The Commission has contracted with the Fish and Wildlife Service and the Fisheries Research Board to further develop control techniques and extend the present control system on the Great Lakes.

The Commission has seen the need for tight control on Superior where trout landings are rapidly declining, particularly in Canadian waters.

Lake Trout Landings in Lake Superior 1952-56

Year	U.S. Pounds	Canadian	Percent fish with scars on May Canadian landings	
			Fresh	Healed
1952	2,838,000	1,389,100	-	-
1953	2,412,600	1,371,100	-	-
1954	2,255,900	1,266,200	3.9	3.9
1955	2,100,900	1,003,200	5.5	9.8
1956	1,812,741	527,300	11.5	15.9

While the decrease in landings does not accurately describe the actual reduction in stocks, the rapidity with which catches fell in Lake Michigan will not permit complacency. Between 1944-1949 the yield dropped from about 6,500,000 pounds to 300,000 pounds. Recent extensive sampling by the Fish and Wildlife research vessel Cisco showed that there had been virtually no lake trout reproduction after 1950.

The incidence of scars on trout taken in the Canadian fishery on Superior has been increasing steadily until it has almost reached the critical level. For example, in South Bay when scar incidence was only slightly higher than that presently encountered on the Canadian side of Superior, a year class of lake trout with an estimated strength of 18,000 fish in 1949 dropped to 600 fish by 1951 and virtually disappeared the following year.

Canadian scientists have seen the complete disappearance of lake trout which ran into several east shore rivers of Superior to spawn. These groups of trout never contributed materially to the commercial fishery but were studied intensively and the suddenness with which they disappeared was dramatic. Many stocks of trout inhabiting inshore areas of Superior will probably be eliminated before lamprey stocks are reduced.

Lamprey abundance in the lake continues to increase as greater and greater numbers of larvae enter to begin their parasitic life. Thirty barriers on the south shore of Lake Superior took approximately 5000 lamprey in 1954; by June 15th of this year these same barriers had taken approximately 47,000.

Lamprey runs on the Canadian side are almost entirely confined to the east shore of the lake. About 2200 were taken in 1955 and 1956 although the recovery of lamprey killed at the barriers in the latter year was incomplete and the run was probably slightly larger. A further increase has been noted in 1957 in streams with established runs but there appears to be no major extension of spawning runs into the more northern areas of Superior.

Already several streams which were reportedly free of lamprey runs, e.g. Brule and Amicon, have produced 13,000 adult lampreys in barriers operated for the first time this year. It is difficult to believe that runs of this size were only recently established and this discovery demonstrates the need for a continuous check of streams that could be used by spawning lamprey.

The Commission is concerned lest the contracting agencies be over-extended by a rapid building program on the remaining lakes, to the detriment, perhaps, of thorough control on Superior. There are 63 barriers in operation on Lake Superior this year and provisions will be made for the building of 22 more in streams which show signs of developing runs. Considerable effort will be expended in checking streams for new runs.

There are 37 barriers in operation in Lake Michigan this year. These killed some 60,000 lampreys up to June 15. The barriers will be extended as rapidly as manpower and land acquisition permit to complete the control network in Lake Michigan by 1959.

Surveys of Lake Huron streams are underway and sites for future barriers are being selected.

The search for a specific poison for sea lamprey larvae has revealed several promising chemicals. These have undergone laboratory and limited field tests and will be purchased in quantity and tested on thirteen Superior streams.

Modifications of electrical barriers and development of poisons which can be used to kill lampreys without harming fish point to more efficient control methods. Their development in an undertaking of such magnitude is well worth careful consideration.

A step toward better control has been made by the development of the direct current barrier which directs upstream migrants into traps. The use of the direct current field with its narcotizing rather than tetanizing effect on fish and lampreys will cause far fewer casualties amongst valuable species than the alternating current barrier and in special situations is well worth the additional cost. The installation of this barrier requires careful planning and often frequent adjustment in positioning in order that it work effectively. Six of these barriers are scheduled for Superior and should be in operation in the coming year. The operation of one barrier, on a stream tributary to Lake Erie, has alerted the Commission to future difficulties in dealing with water of high conductivity. In this stream, the difference between conductivity of water and the lamprey is relatively low and more electrical power appears to be required to maintain a field that will act as a barrier.

Studies of the life history of the sea lamprey are being carried out by both contracting agencies. Information from these studies may indicate where new or altered control methods will prove effective.

The movement of lamprey on the hulls of ships has caused concern. Examination of some 81 ships passing through the Canadian locks at Sault Ste. Marie in 1956 disclosed nine individuals moving up and nine down with no indication of a free swimming migration. No lamprey were found on 100 ships examined this spring confirming earlier suspicions

that this transport through the locks occurs in the fall when the water is cold.

The conditions which limit the successful spawning of lamprey are under study. It is particularly important on the Canadian side to accurately determine the upper limits of temperature which will allow the successful development of lamprey eggs. This factor may well eliminate some of the colder streams as potential spawning sites.

With the closing of the control network on Superior, the Commission is almost immediately faced with the question - will the various stocks of trout remaining in Superior be sufficiently abundant to permit the rapid recovery of the fishery? There is good evidence that young lamprey may remain in streams for four or five years after hatching before migrating to the lake to commence their parasitic life. It is, therefore, unlikely that any noticeable decrease in the Superior lamprey population will occur before 1959 or 1960. Most populations of trout inhabiting inshore areas will be under heavy attack during this period. The larger mature fish will bear the brunt of this attack and spawn disposition during the next four or five years will be low or negligible in some instances. Introduction of hatchery stock may be a necessary step to establish some fisheries.

Some experience on the survival of hatchery trout under lamprey predation has been gained. Experimental planting in South Bay on Lake Huron show that survival of lake trout up to four years of age may range from 2 to 45 percent. When they are about 20" long, they appear to become very susceptible to lamprey attack. A small population of lake trout is being maintained by stocking but there is no prospect of lake trout spawning in South Bay until the lamprey stocks are reduced. It is important to note that, after an initial loss following planting, the trout in South Bay are free of any major mortality for a period of about three years. Re-establishment using a hatchery stock of lake trout can therefore begin a year after control is completed. Ontario plans to plant approximately 500,000 yearlings in Superior next year in one or two areas where mature trout have been eliminated.

While some populations of trout in Superior will recover without the aid of hatchery stock, plantings of trout will be necessary in Michigan and Huron when control is completed. There are virtually no trout to provide a nucleus for recovery in these lakes.

With the completion of control the re-establishment of lake trout in Michigan becomes a matter of major concern. Sources of eggs will be difficult to find. Canada is planning to make their spawn collections in the larger inland lakes now that their sources in Superior are failing. If eggs are available then the demand on hatchery facilities will be heavy if the plantings are to be of reasonable size. The rearing of five to seven million yearlings will be a major operation but not entirely impractical.

While the Commission's major concern at the present time is control of the sea lamprey, it is well aware that this is not its only function and that while control of the lamprey and restoration of the lake trout deserve priority the co-ordination and stimulation of general research in Great Lakes fisheries is a major responsibility.

It has during the past year reviewed the research programs of two agencies--the United States Fish and Wildlife Service and the Province of Ontario.

At a meeting on November 19, 1956, the Commission heard reports from scientists representing New York, Pennsylvania, Ohio, Michigan and Wisconsin outline their problems and the activities they were carrying out on the Great Lakes. The Commission has not yet seriously attempted to develop an integrated lakes-wide program which would share the interest and support of the various agencies. Actually a certain degree of co-ordination does exist on Lake Erie as a result of the meetings of the Lake Erie Fish Management Committee. State agencies have co-operated with the Fish and Wildlife Service in connection with the collection of commercial catch statistics.

Certain research activities that the Commission believes are necessary in order to understand and efficiently manage Great Lakes fisheries are as follows:

1. Increased attention should be given to adequate biological sampling of the catch. In commercial fisheries the samples should be net-run for many sizes and species are discarded and do not appear in the landed catch. Such sampling should be sustained and the data quickly processed.
2. Tagging studies should be carried out in order to establish population identities, movements, distribution, densities and fluctuations.
3. The hydrography of the lakes should be studied and the nature and extent of pollution assessed.

There are undoubtedly other activities which should be carried out. Life histories of important species and their associates should be undertaken. The interrelationships among species including the effects of selective fishing should also be investigated. Development of methods of profitably exploiting currently unused or partially used fish resources should be pushed with vigor. Technological, market development and other economic problems, while they are beyond the scope of the Commission, should be recognized and studies implemented.

The Commission is pleased to see the two Federal agencies and the Province of Ontario have increased their research programs substantially. The Commission realizes however, that it is still relatively unfamiliar with the increasing contributions of State and University research groups. Until it is satisfied that it can fully assess the interest and ability of these groups and can count on their participation, it cannot develop a properly co-ordinated program.

WILDLIFE OPPORTUNITIES IN THE SOIL BANK AND SMALL WATERSHED PROGRAMS.

(Statement by Wallace L. Anderson, Midwestern Biologist, Soil Conservation Service, U.S.D.A., St. Paul, Minn.)

The soil bank and small watershed programs both have a very strong "grass-roots" flavor. The small watershed program is definitely a partnership arrangement in which individual landowners, local governmental units, State and Federal governments all participate, both in

planning and in cost-sharing. Even the soil bank program, because of its administration by County and State ASC Committees, and the provisions for participation by State agencies, has many local aspects.

Let's discuss wildlife opportunities in the soil bank program first. As you know, the program has two parts - an annual "acreage" reserve, and the conservation reserve, a more permanent program designed to stay in effect from 3 to 15 years. It is difficult to imagine any part of this program that will not be beneficial to farm wildlife in some degree.

But what we are particularly interested in at this meeting are the wildlife opportunities that exist in the conservation reserve, where we have the three G-practices set up especially to improve wildlife habitat.

As of April 30, 1957 (two weeks after sign-up was completed) there were 32,962 contracts covering 2,288,453 acres in effect in the 12 Midwest States represented here. By far the largest share of this acreage, nearly 1,800,000 acres, was to be seeded to grasses and legumes for permanent cover. The next largest acreage was the 34,186 acres scheduled to be planted to trees. Only 1,203 acres was contracted for wildlife food and cover plantings (G-1), and 1,079 acres for shallow water impoundments for wildlife (G-2). Significantly 815 acres of this was in Missouri.

Farmers contracted for 1,249 structures for water storage (for cover) or irrigation, but only 171 dams and ponds for fish (G-3) were on the books. Of these 1,420 contracted impoundments it is interesting to note that 1,142 were in Missouri.

I doubt that anyone here is satisfied with the results of the 1957 Conservation Reserve sign-up. What needs to be done to make a better showing in 1958? Obviously, we must get greater farmer acceptance and application of the "G" practices. By "we", I mean all State and Federal agencies, other organizations and individuals interested in wildlife production.

First, we must find a way to acquaint farmers with the G-practices, remembering that these practices are in "competition" with other practices much better known to the landowner, such as legume-grass seedings, tree planting, and stockwater ponds. They have been in the AC Program for years and are well known. The G-practices are virtual strangers by comparison.

Landowners are not likely to show much interest in practices developed solely for wildlife; if we can point out other values - show that they are really multiple purpose practices, farmers are much more likely to want them.

To me, this means there must be an intensive informational campaign at the National, State, County and - most important - the community level. Maximum use must be made of radio, television, newspaper, magazines and leaflets. You may say you have seen lots of publicity on the G-practices - - - but have farmers seen it? Has it been the kind that would arouse their interest, not yours?

I think I can prove this point by reminding you of the comparatively excellent sign-up in Missouri - where the Conservation Commission prepared a special Soil Bank issue of the Missouri Conservationist; where there was, "I am told, good newspaper and radio coverage, and where, according to Oscar C. Bruce, SCS State Conservationist, there was exceptionally close co-operation by the Conservation Commission's field service section with the Soil Conservation Service and the Extension Service.

Secondly, we need to re-examine the specifications that have been prepared for the G-practices - and in a few cases prepare some that do not now exist.

I do not mean to imply criticism of those who prepared the present specifications. Most of us who assisted, including myself, did not have -- at the time -- the necessary information regarding the Conservation Reserve. Or, some of us may have had little experience in working with farmers and with the State and County ASC Committees. And, in some cases, the specifications were prepared hurriedly to meet a deadline. The most obvious shortcomings with existing specifications that I have encountered, are as follows:

(1) Specifications are too complicated. In some cases those writing the specifications forgot that the practice was to be applied on private land by the farmer--with perhaps some on-site assistance from a technician of the Soil Conservation Service, State Forestry Department, or Game and Fish Department. We forgot that the farmer was signing a three to ten-year contract to establish and maintain the practice in accordance with the specifications, and that he faced the possibility of penalties or repayment of cash received if he did not do so. Such words as "shall", "will", "must", "agrees to", etc. are all binding on the farmer. Complicated specifications cause loss of interest by farmers, technicians, ASC Committees, and Soil Conservation District Boards of Supervisors. We must not forget that the County and State ASC Committees and Soil Conservation Boards of Supervisors have a lot to say about how much attention is directed to the G-practices, and how much money is made available for application of them.

(2) Too restrictive. Some sets of specifications are brief and simple enough, but they are too restrictive as regards kinds of plants eligible, size or depth of ponds, kinds of fish, etc. If the specifications read that a fish pond or duck marsh must be a certain size or depth, or sets the minimum size of a wildlife food patch, the farmers cannot legally receive payment unless those specifications are met. In some cases specifications are designed with one part of the state in mind and are not broad enough to meet soil, temperature, and rainfall conditions in all parts of the state.

(3) Existing specifications. In most Soil Conservation Districts or counties, there are standards, specifications, job sheets, bulletins, ACP specifications, and other types of guides that farmers and local technicians are accustomed to work with. In so far as possible, specifications for the G-practices should follow specifications that are already in use for similar practices.

To sum up my comments on specifications for the G-practices, I would like to stress the following points:

1. Keep specifications as simple as possible.
2. Keep them broad enough to meet soil, temperature, and moisture conditions in all parts of the state, and broad enough to meet the farmer's wishes.
3. Give responsibility to the County Committee and to the locally responsible technicians wherever possible. Let the County Committee or locally responsible technician set dates of planting, kinds and amounts of fertilizers, spacing, depth, cultural practices, etc.
4. Insofar as possible, G-practice specifications should conform with existing specifications for the same or similar practices now in use in the state or county.
5. Be reasonably sure that species of plants and seed required by the specifications are available.
6. Avoid reference to public hunting or fishing.
7. Design the practice to benefit the farmer so he will want to maintain it after his contract expires.

Now we come to our third problem. If we develop our information programs and our G-practice specifications to a point where there is a heavy demand for on-site technical assistance, how are we going to meet the demand? Actually, technicians of the Soil Conservation Service, who are already working with individual farmers, and with County Committees on land use problems and conservation practice applications, are in the best position to provide on-site assistance. Such men are available to every Soil Conservation District and to most counties.

These technicians are the same men who, in the regular soil conservation district program in these 12 States (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin) helped farmers and ranchers to apply in only one year, 1956, 648,166 acres of strip cropping, 318,367 acres of pasture planting, 51,441 acres of tree planting, 1365 miles of windbreakplanting, 99,528 acres of protecting woodlands from grazing, 370,693 rods of hedgrow planting, 6,188 acres of marsh management, and 53,274 acres of wildlife area improvement for a total of 1,188,482 acres of improved wildlife habitat applied on the land in only one calendar year. They also helped farmers and ranchers in these 12 states to construct 18,453 farm ponds in the same one year. In many places, these ponds brought water where no water had previously existed.

Much of this could not have been done without the planting stock, fencing materials, labor, and other services furnished by State Conservation Commissions or Departments.

The point I want to make is that these technicians are experienced; they are able to integrate wildlife habitat improvements into a basic plan for the treatment of the whole farm or ranch. They enjoy the confidence of farmers and ranchers - their suggestions for wildlife habitat improvements are accepted as part of a whole job - they are not something separate and apart and difficult to understand. Furthermore, these technicians have the guidance of the Service's corps of professional biologists - men who are constantly working with your own biologists to be sure we are all making unconflicting recommendations.

Finally, all of us must realize that in some states, and in many counties, there is little opportunity for the application of G-practices. Remember that only cultivated land is eligible for the Conservation Reserve. In some states or counties opportunities for the G-practices will be few because of a small acreage going into the Conservation Reserve. In others, such as the dryland farming areas, there will be little or no water available for practices G-2 and G-3. In some areas the moisture situation will make the establishment of food and cover plants under G-1 difficult.

I have tried so far in this talk to make three major points:

- (1) The need for a stepped-up information program on the G-Practices--directed toward farmers!
- (2) The need for review and revision of specifications for the G-practices; and
- (3) The technicians of the Soil Conservation Service, backed up by SCS and State Game Department biologists, can provide the on-site assistance needed in the application of G-practices.

In my opinion, items one and two, the information program and the preparation of practice specifications, are far more pressing at the moment than the need for on-site technical assistance. If we sell the program to the extent that farmers want more assistance on wildlife practices than is now available to them, I am satisfied that they will get it-----but remember, we must sell the farmers---not ourselves.

Now for a brief discussion of wildlife opportunities in the small watershed program. Up to July, 1955, 61 watersheds involving 4,432,600 acres have been authorized for planning assistance in these 12 Midwest States, under the provisions of Public Law 566. To June 1, 1957, 8 projects, totalling 390,100 acres, have been approved for installation of works of improvement.

As you know, all applications for assistance under Public Law 566 must be initiated by local organizations and must be approved by the Governor of the State or by an agency designated by him. If more than one application in a State has been approved by him or the agency, he (or they) designate the priority in which planning shall be undertaken. The leaflet, "Facts About the Watershed Protection and Flood Prevention Act" issued by the U. S. Department of Agriculture will provide full information about these procedures.

The procedures encourage your participation in developing the watershed projects in which you have an interest. Details are many, as you would expect of any well-coordinated effort. You will find that watershed work requires a sharing of the cost between state and local groups and the federal government. A project requires understanding, mutual consideration, reasonable compromise, and a lot of hard work.

The State Conservationist informs all concerned Federal and State agencies of his intention to assist in the development of each watershed work plan. This specifically includes state game and fish departments and the Fish and Wildlife Service. We of the Soil

Conservation Service are ready, willing, and anxious to work with your technicians to develop dependable practices -- to attain predictable objectives for each and every kind of wildlife for which management and improvement is possible.

The Soil Conservation Service itself gives consideration to watershed problems of fish and wildlife, recreation, pollution abatement, stabilization of streamflow, and related benefits. We endeavor to determine if the proposed works of improvement will have any significant effects on these watershed problems; and we regularly invite concerned Federal and State agencies to participate in this determination.

If significant adverse effects on fish and wildlife appear likely, the Soil Conservation Service will call upon the Fish and Wildlife Service, in co-operation with the concerned State agencies, to carry out appropriate investigations. This is in accord with a memorandum of understanding between our two agencies. The SCS has transferred funds to the Fish and Wildlife Service for such investigations on several watersheds.

The watershed projects have been hailed as a great opportunity for the expansion and development of fish and wildlife resources. Let's look at the situation with both imagination and realism. Actually, the land treatment phase of the program offers the same opportunities as already exist in working with Soil Conservation Districts and their co-operators. One difference is that, in the watershed, treatment will be speeded up -- in other words, more habitat improvement can be applied per square mile in a given period of time than is generally being done outside of watersheds. State Conservation agencies using Pittman-Robertson and Dingell-Johnson funds are already functioning effectively in most Midwest States and, I hope, will continue to do so.

The structural phase of the program may offer opportunities for:

- (1) Managing water levels for waterfowl.
- (2) Providing public fishing lakes.
- (3) Stream and streambank treatments for trout and, perhaps, other fish.

In many cases, the State wildlife agency may be able to get a real "bargain" in habitat improvement because part of the cost of the structure will be borne by the Federal Government and part by the local sponsoring agency, with the State agency bearing the part specifically relating to wildlife values.

Material aides will be necessary to obtain maximum benefits for game and fish. Fish and wildlife developments are not financed by federal flood prevention appropriations. Federal funds for fish and wildlife improvements are available to the states through Pittman-Robertson, Dingell-Johnson, and other appropriations.

Wildlife expenditures in a watershed program are either (1) incidental, or (2) for soil and water conservation practices financed by the owners or lessees of the lands within the watershed; or (3) furnished by a local group or State agency which has funds for wildlife works of improvement.

This financial picture leads more and more to one important conclusion: We need fish and wildlife management which is profitable enough to encourage the operators of private land to produce more game and fish. This is a large order, and it may not be realized to our satisfaction very soon.

To sum up:

- (1) There are tangible opportunities to enhance wildlife habitat in the small watershed program.
- (2) This enhancement will require participation in the program by State Wildlife Agencies.
- (3) Within the law, the make-up of a small watershed program must be approved by the local people through their sponsoring agency. Therefore, wildlife habitat improvement proposals must recognize landowner economics and the treatments recommended must be those that local people want and will maintain.

5:00 - Adjournment for the day (July 10).

Thursday, July 11.

MR. COUTTS: Discussion of licenses and apportionment of funds. Surveys of license sales. Adoption of uniform licensing system. Welcome opportunity to work with states in long range effort of this sort.

PROBLEMS IN THE APPORTIONMENT OF F. A. FUNDS

(Statement by James M. Coutts, U. S. Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, Minneapolis, Minnesota)

This past year, members of the Federal Aid Committee of the International Association of Game, Fish and Conservation Commissioners have called attention to the possible duplication in the license figures used in calculating Federal Aid apportionments. This duplication occurs because it is not always possible, on the basis of the license data, to determine the number of individuals who have paid licenses to hunt and fish in a state. Some states sell a single license while others sell a license for each species or season.

To fully understand what is meant by this duplication in license data, it is necessary to review the procedure followed by the Bureau of Sport Fisheries and Wildlife in apportioning these funds. Unless otherwise noted, only the apportionment of Pittman-Robertson funds will be considered here since the amount of duplication in fishing license data is negligible because of the limited types of such licenses sold in most states.

Present Method of Apportioning Funds

After deducting administrative costs and allotments for the possessions, the funds apportioned to the states are divided with one-half apportioned on the basis of land area and the other half on the number of paid license holders. The figure for the number of paid license holders is determined from the certified license information submitted to the Bureau each year by the states.

Preliminary calculations are made, on the basis of land area and license holders, to determine the initial breakdown of the funds available to the states. These figures are then analyzed and adjusted to comply with the provisions of the law which specify that no state shall receive in excess of 5 per cent of the available funds and that no state shall receive less than one-half of one per cent. After these adjustments are made, the computations are then repeated to apportion the balance of the funds to the states not affected by these limitations.

The Duplication Problem

The license data have been analyzed each year to establish as accurately as possible the number of individual hunters with paid licenses in each state. This presents a problem since there are two distinct types of licensing systems followed in the states. Twenty states have a prerequisite hunting license which every hunter over a certain age must purchase. The hunter can then buy one or more special licenses or tags for deer, antelope, etc. In these states the number of paid license holders is simply the total number of prerequisite hunting licenses and this is the figure used for apportionment purposes.

The second system, followed by 28 states, has been referred to as a "multiple licensing system." A hunter is able to purchase one or more of any of the licenses available. There is no prerequisite license. In these states, it is, of course, impossible to determine from the license data the number of individual license holders. The total number of licenses sold is the figure that has been accepted for apportionment purposes. It is the acceptance of this figure as the number of "paid license holders" that prompted the duplication question.

The Meaning of the Term "Paid License Holder"

The term "paid license holder" appears in the Act ¹ in the section relating to the apportionment of funds which reads as follows: "The Secretary of the Agriculture (now Interior), after making the aforesaid deductions, shall apportion the remainder of the revenues in said fund for each fiscal year among the several States in the following manner, that is to say, one-half in the ratio which the area of each State bears to the total area of all States and one-half in the ratio which the number of paid hunting-license holders of each State in the preceding year . . . bears to the total number of paid hunting license holders of all the states: Provided, That such apportionments shall be adjusted equitably so that no State shall receive less than one-half of 1 per centum nor more than 5 per centum of the total amount apportioned to all the States" (underscoring added).

The opinion has been advanced by some that the term "paid license holders" could be interpreted to mean the number of licenses sold rather than the number of individuals who hunt. The wording of the Federal Aid in Fish Restoration Act ², which was patterned after the Wildlife Restoration Act clarifies this issue. The pertinent section of the apportionment formula for this Act reads as follows: ". . . and 60 per centum in the ratio which the number of persons holding paid licenses to fish . . . bears to the number of such persons in all States . . ." (underscoring added). Thus, there is little question but what the intent of the authors of the Acts was to apportion this half of the funds on the basis of the number of individuals who have a paid license or licenses to hunt.

Solution to the Problem

If a more accurate determination is advisable and justified, it will be necessary for the states with multiple licenses to supply figures on the total number of license holders instead of total licenses sold. This brings up the problem of establishing the amount of duplication in license data. This information could be obtained from hunters through a postal card survey with names randomly selected from license stubs. Each hunter contacted would be requested to indicate the number of licenses purchased in the previous year. From the returns a correction factor could be derived and applied against the total licenses sold to arrive at the number of paid license holders. There are undoubtedly several other methods of establishing the extent of duplication, but a standard method would have to be agreed upon and the survey conducted in the same manner in every state with a multiple licensing system.

There are doubtless many other approaches. For example, the states might all work toward the adoption of a uniform licensing system characterized by a universal prerequisite hunting (or fishing) license for each participant. Special problems, including that of filling the game department coffers, could be met by the issuance of species or revenue permits. Such a system has much to commend it. For one thing, it should be popular among sportsmen who are apt to complain over the multiplicity of licenses required in some states. And it would be vastly better than the completely hopeless situation which will result if the states get into a "license race" on the illusory assumption that to do so will bring in more federal aid dollars. We would welcome the opportunity to work with the states in a long-range effort to foster the adoption of such a plan.

There is also the possibility of apportioning this half of the funds on some other basis than license holders. Such a change would require an amendment to the law, but as an example, apportionments calculated one-half on the basis of area and the other half on the basis of the 1950 U. S. Census are shown in Table I. The actual apportionment for F. Y. 1957 are also shown for comparison.

It could be argued that the states with the higher human population should receive a larger share of these funds to provide hunting opportunities. The fallacy in this reasoning, however, is that many of the states with a higher population do not have the land to devote to wildlife management purposes. This is exemplified

in the table by Massachusetts and New Jersey, two of our smallest states, as they would have received \$207,000 and \$183,000 respectively over the actual apportionments for 1957.

Five states, Illinois, Massachusetts, New Jersey, New York and Ohio would have received \$100,000 or more in excess of the actual apportionments if this method had been used. Three of these, Illinois, Massachusetts and Ohio are prerequisite licensing states.

Apportionments for Colorado, Michigan, Minnesota and Wisconsin following this method would have been less than the actual 1957 apportionments by \$100,000 or more.

Another approach would be to use the data from surveys like the National Survey of Fishing and Hunting conducted by Crossley, S-D Surveys, Inc. On page 33 of this survey is a table showing the number of persons 12 years old and older who fish and hunt. The information is broken down by census, geographic sections of the United States. The states within each section are shown on page 30. The 1957 fiscal year apportionments, based on area and this survey information with the actual apportionments for comparison, are shown in Table II.

This method reflects the variations in hunting pressure in different sections of the United States. There is undoubtedly considerable error in applying these sectional percentages on an individual state basis. This method could not be adopted unless there was some assurance that this survey was to be revised periodically, and that more accurate state figures would be provided.

States that would have received \$100,000 or more in excess of the actual 1957 apportionments are Illinois, Massachusetts and Missouri. Those that would have received \$100,000 or more below the actual 1957 apportionments are Michigan, Pennsylvania and Wisconsin.

Neither of these methods of apportioning funds give figures corresponding too closely to the area-license method in present use. A valid objection, of course, to both methods is that the apportionment base would remain unchanged until a new census or survey is completed.

In conclusion, it appears that the present method of apportioning funds is still the best approach provided some means of eliminating the duplication is devised. As previously stated, this Bureau would welcome the opportunity to work with the states in a long-range effort to foster the adoption of such a plan.

¹Federal Aid in Wildlife Restoration Act P.L. 415-75th Congress (50 Stat. 917), as amended.

²Federal Aid in Fish Restoration Act P.L. 681-81st Congress (64 Stat. 430), as amended.

A COMPARISON OF 1957 P-R APPORTIONMENTS WITH
METHOD BASED ON AREA AND POPULATION (1950 CENSUS)

TABLE I

STATE	APPORTIONMENTS (NET)		NEW METHOD EXCEEDS ACTUAL	ACTUAL EXCEEDS NEW METHOD
	NEW METHOD	ACTUAL 1957		
Alabama	\$ 317,530.08	\$ 287,788.29	\$ 29,741.79	\$ 13,599.63
Arizona	348,038.10	361,637.73		23,439.30
Arkansas	253,855.63	277,294.93		
California	811,800.00	777,565.54	34,234.46	
Colorado	356,043.87	485,842.98		129,799.11
Connecticut	131,236.80	81,180.00	50,056.80	
Delaware	81,180.00	81,180.00		
Florida	319,027.68	227,370.97	91,656.71	
Georgia	359,405.78	401,083.13		41,677.35
Idaho	257,577.83	330,805.48		73,227.65
Illinois	662,111.61	446,687.62	215,423.99	
Indiana	327,878.69	355,643.56		27,764.87
Iowa	304,120.73	351,096.20		46,975.47
Kansas	331,473.48	326,022.58	5,450.90	
Kentucky	280,733.45	252,880.49	27,852.96	
Louisiana	287,084.01	268,480.05	18,603.96	
Maine	142,307.53	189,789.26		47,481.73
Maryland	165,811.35	108,447.85	57,363.50	
Massachusetts	297,465.65	90,494.35	206,971.30	
Michigan	529,529.23	811,800.00		282,270.77
Minnesota	399,508.74	507,335.81		107,827.07
Mississippi	255,299.83	239,533.43	15,766.40	
Missouri	418,177.25	369,988.96	48,188.29	
Montana	427,415.19	494,980.53		67,565.34
Nebraska	283,979.11	308,928.94		24,949.83
Nevada	304,430.49	315,453.71		11,023.22
New Hampshire	81,180.00	81,180.00		
New Jersey	304,845.56	121,636.01	183,209.55	
New Mexico	364,725.02	371,304.37		6,579.35
New York	811,800.00	670,174.92	141,625.08	
North Carolina	379,205.07	339,320.34	39,884.73	
North Dakota	224,989.46	248,832.20		23,842.74
Ohio	576,648.47	475,076.23	101,572.24	
Oklahoma	317,756.01	287,483.11	30,272.90	
Oregon	348,174.93	410,673.56		62,498.63
Pennsylvania	737,438.46	638,190.89	99,247.57	
Rhode Island	81,180.00	81,180.00		
South Carolina	207,197.73	174,306.71	32,891.02	
South Dakota	243,966.84	303,717.90		59,751.06
Tennessee	306,044.48	355,843.83		49,799.35
Texas	811,800.00	811,800.00		
Utah	267,090.23	322,936.60		55,846.37
Vermont	81,180.00	81,180.00		
Virginia	303,808.36	325,287.43		21,479.07
Washington	321,697.02	349,256.80		27,559.78
West Virginia	182,305.25	213,517.95		31,212.70
Wisconsin	351,553.40	486,128.61		134,575.21
Wyoming	278,391.60	337,660.15		59,268.55
TOTAL	\$16,236,000.00	\$16,236,000.00	\$1,430,014.15	\$1,430,014.15

TABLE II

A COMPARISON OF 1957 P-R APPORTIONMENTS
WITH METHOD BASED ON AREA AND SURVEY DATA

STATE	APPORTIONMENTS (NET)		NEW METHOD EXCEEDS ACTUAL	ACTUAL EXCEEDS NEW METHOD
	NEW METHOD	ACTUAL 1957		
Alabama	\$ 346,812.03	\$287,788.29	\$ 59,023.74	\$
Arizona	386,871.95	361,637.73	25,234.22	
Arkansas	264,101.29	277,294.93		13,193.64
California	811,800.00	777,565.54	34,234.46	
Colorado	414,371.44	435,842.98		71,471.54
Connecticut	93,552.39	81,180.00	12,372.39	
Delaware	81,180.00	81,180.00		
Florida	312,611.89	227,370.97	85,240.92	
Georgia	349,952.50	401,083.13		51,130.63
Idaho	287,447.03	330,805.48		43,358.45
Illinois	619,026.41	446,687.62	172,338.79	
Indiana	309,572.58	355,643.56		46,070.98
Iowa	390,910.45	351,096.20	39,814.25	
Kansas	398,958.79	326,022.58	72,936.21	
Kentucky	307,914.76	252,880.49	55,034.27	
Louisiana	298,708.62	268,480.05	30,228.57	
Maine	128,440.08	189,789.26		61,349.18
Maryland	156,249.12	108,447.85	47,801.27	
Massachusetts	209,039.75	90,494.35	118,545.40	
Michigan	499,821.85	811,800.00		311,978.15
Minnesota	500,394.47	507,335.81		6,941.34
Mississippi	277,306.26	239,533.43	37,772.83	
Missouri	547,505.15	369,988.96	177,516.19	
Montana	464,126.99	494,980.53		30,853.54
Nebraska	333,053.73	308,928.94	24,124.79	
Nevada	321,887.14	315,453.71	6,433.43	
New Hampshire	81,180.00	81,180.00		
New Jersey	190,281.94	121,636.01	68,645.93	
New Mexico	401,944.62	371,304.37	30,640.25	
New York	654,492.21	670,174.92		15,682.71
North Carolina	366,281.25	339,320.34	26,960.91	
North Dakota	251,603.31	248,832.20	2,771.11	
Ohio	536,262.96	475,076.23	61,186.73	
Oklahoma	330,569.62	287,483.11	43,086.51	
Oregon	336,043.58	410,673.56		74,629.98
Pennsylvania	491,719.22	638,190.89		146,471.67
Rhode Island	81,180.00	81,180.00		
South Carolina	200,842.81	174,306.71	26,536.10	
South Dakota	272,279.92	303,717.90		31,437.98
Tennessee	336,118.79	355,843.83		19,725.04
Texas	811,800.00	811,800.00		
Utah	300,677.73	322,936.60		22,258.87
Vermont	81,180.00	81,180.00		
Virginia	293,010.10	325,287.43		32,277.33
Washington	293,856.57	349,256.80		55,400.23
West Virginia	175,728.17	213,517.95		37,789.78
Wisconsin	338,173.25	486,128.61		147,955.36
Wyoming	299,157.28	337,660.15		38,502.87
TOTAL	\$16,236,000.00	\$16,236,000.00	\$1,258,479.27	\$1,258,479.27

MR. PETOSKEY: Above covered methods using various state apportionments. Criticism of words "license holder". Most states sales indicate licenses to those people who have lost or mislaid them. Consider number of square miles of suitable wildlife habitat.

(Statement by Merrill L. Petoskey, P-R Coordinator, Michigan Conservation Department)

Mr. Coutts has pretty well covered the methods used in determining the various state apportionments. As I understand it, the apportionment is based one-half in the ratio which the area of each state bears to the total area of all of the states and one-half in the ratio which the number of paid license holders of each state in the prior fiscal year bears to the total number of paid license holders of all of the states. These, in any combination, can provide a maximum allotment of five per cent, which is then equally divided between the two.

When I showed the original draft of this talk to Mr. Ruhl, a couple of weeks ago, he snorted and growled that I was trying to attack elephants with rock salt. That was probably true, but I want to be very careful of the statements I make.

This matter of changing apportionments, which is under discussion and apparently has been for the past few years, is a very serious one. Actually, I am new in this game of changing apportionments, because I first got my feet wet at the meeting of the Federal Aid Committee held in Washington in March.

At the meeting in Washington, it was quite apparent that at least two of the states aren't too well satisfied with our present method of apportionment. In fact, they went so far as to imply that states having licensing systems different from theirs were obtaining Federal Aid funds dishonestly. I cannot agree with this reasoning because we assume that the interpretation of Section 4 of the original act is correct and that a paid license holder is a paid license holder, regardless of whether he hunts deer or small game. I will say at this time that we are reasonably well satisfied with the present method of apportionment.

I thought the implication that our licensing system was dishonest or illegal as it was called was unfair because our method of licensing was set up many years in advance of September 2, 1937, when the Pittman-Robertson Act was passed. In our state, deer licenses were first required in 1895, small game licenses in 1913, and the most recent addition to those required was the bow and arrow license provided for in 1937. All of these came prior to the passing of the Pittman-Robertson Act.

Certain states have criticized this method of licensing. Actually the criticism is of the interpretation of the words "license holder". Some of the states that are most critical of us use a combination license which includes fishing as well as hunting, and they receive credit for both types of sportsmen, regardless of whether the person hunts or fishes. Most states sell duplicate licenses to those unfortunate individuals that may lose or mislay theirs. Undoubtedly, these are included in the reported total upon which the apportionment

is based. In my opinion, every state has some type of duplication and it would be next to impossible to tell exactly how much. We have over 4,200 licensing agents in Michigan. I sincerely believe that a minute check of their records to ascertain if there were any duplication, let alone how much, would be impossible.

At the meeting in Washington, Mr. Frye of Florida gave a report on a partially completed survey he had made of the licensing systems of the various states. This survey led him to believe that 25 per cent of the four and one-half million licenses sold in all of our states are duplicates. By this, I would assume he means individuals possessing two or more licenses. These people are still paid license holders. If these duplicates were eliminated, he estimates that the apportionment to those states using a single license would increase approximately seven per cent. In his survey he maintained that 13 states benefited by multiple licensing and 35 others were being hurt. Following the presentation of Mr. Frye's report, it was moved that the Federal Aid Committee recommend to the International Association that they request the Secretary of the Interior to make a survey of all of the states to ascertain if there are duplications in determining the number of paid license holders and then require those states where duplications were found to determine the exact number of paid license holders to the satisfaction of the Department of the Interior and, in the future, to have the license reports audited. To me, those few statements are a mighty big job and I believe that auditing these license reports would be an impossible task.

I recently received the license information from the Fish and Wildlife Service that will be used in calculating Pittman-Robertson apportionments for the coming fiscal year. Instead of 13 states having duplication of hunting licenses as suggested by Mr. Frye, the figures from the Fish and Wildlife Service show there are 28 states in which there is probable duplication. One of these, incidentally, is Florida. Turning to fishing license figures for a moment, the same Federal survey shows that licenses in the resident class include 10 states having some duplication, of which California is one and Michigan is not, and for non-resident fishermen, all but four of our states have possible license duplication. In Michigan, the husband purchases a fishing license and an additional license is attached for the legal wife. The present interpretation is that this is a free license and, consequently, is not counted in determining our Dingell-Johnson apportionment. These licenses for wives numbered over 219,000 during the past fiscal year. It would be a simple matter to change the law, have the man and the wife split the license fee, and, in that manner, both become paid license holders, thereby increasing our Dingell-Johnson apportionment appreciably.

I would like to say that if a change in the interpretation of the words "license holders" is proposed, it might be well at the same time to consider the number of square miles of suitable wildlife habitat in a state rather than the state's whole area. Speaking for Michigan again, we have 35,575 square miles of Great Lakes waters included within the state's boundaries that are not counted for our Pittman-Robertson apportionment. This water area is better suited as habitat for waterfowl and other wildlife species than the large desert areas of some of our western states. There are other states in the midwest that might also benefit if Great Lakes waters were

included. I raised this question at the meeting in Washington and the states having marine coastal waters maintained that if these Great Lakes waters were allowed, they could claim all of the waters along their coast line within the three or ten mile limit. They were somewhat vague about the actual line of demarcation. However, a check of our law library reveals that the only marine area over which a state has jurisdiction lies within the high and low tide mark.

Let us look for a minute at the apportionments to states on the basis of paid license holders. In the fiscal year 1957, the Pittman-Robertson apportionment in Nevada per paid license holder was \$8.50, the Dingell-Johnson apportionment \$1.26, in New Mexico \$4.49 P-R and \$.85 D-J, Pennsylvania \$.71 P-R and \$.19 D-J, and in Michigan \$.68 P-R and \$.20 D-J. Suppose we assumed there were 25 per cent duplicates as stated in Mr. Frye's report for these states. Even the addition of those few cents would not bring our apportionment per license holder any where near those of the first two states listed.

The states where hunting pressure is the heaviest are the states where the most Pittman-Robertson money should be spent. After all, those are the sportsmen that are paying the toll. We have had very little money revert from our state to the Migratory Bird Conservation Fund. Our legislature has always been willing to appropriate enough money to match any received from the Federal government.

I would like to reiterate that we in our state are reasonably well satisfied with the present apportionment procedures. Also, that the definition of the term "license holder" was not made by the states, but by those in charge of disbursements, and finally, if a change is contemplated, it should be reviewed thoroughly before it is done and those states having the greatest need, the heaviest hunting pressure, the most need for wildlife restoration, should receive the largest apportionment.

MR. SPRECHER: Congratulations, Pete, on the fine paper. You will understand that I am not proud of action of the committee which I am also on. If there is a change in that law, should go back to Congress and thoroughly discount and thoroughly change. An audit is out of the question to change the meaning of this law.

MR. KABAT: A philosophy of having licenses. Some states modified their licenses to break them down into small game and big game licenses. Some people care to hunt on one or two species and if we have a single license this individual would be paying for a license that might include something which he has no interest in.

MR. COUTTS: If there was a license for each species you might end up with 10 licenses in one state and another state might have only two licenses. Mobile licensing system is not equitable for everyone.

MR. KABAT: Would be a question of grouping species and not making individual license for each species.

MR. COUTTS: Simple to get number of license holders.

MR. OLDS: Need all funds we can get in Ohio. Wisconsin provides hunting for non-resident hunters. So does Michigan and other states. People pay prices of licenses and price of tourists pay when they travel.

MR. RUHL: With the tendency to cut off excise taxes we ought to decide what we are going to do and be united and not divided. Any scheme that has been designed has had inequality. More money to go for the cause. Make this money available to those phases of activity which were difficult to sell. Valid reasons to get \$3. for small game today and \$5. for deer tomorrow. Every agency has to find some tendency to overcharge for non-residents. Possible if the state paid out own hard cash for group of approved activities and we found trial for those activities on a percentage basis. Would that be a good percentage of need? If federal aid was small enough it might be workable. Question of delegation is very difficult. We send more money to Washington than we get back.

MR. JORGENSEN: Apportionment on the basis of need might hurt some states. Other states will benefit.

MR. OLDS: Put fishing and hunting licenses on basis of automobile licenses.

MR. RUHL: How we might preserve potholes in Canada.

MR. VESALL: Legislature earmarked \$200,000. for wetland purchase. That is important to other states as well. If we had to determine what delegations there were our budget would be hurt. We have to stick together.

MR. COUTTS: If we leave the present method the way it is there will be a gradual shifting to the multiple license system. Most states require legislation to switch.

MR. RUHL: If the motive was to get more money for the real concern, then we shouldn't object.

MR. SCHRADER: Multiple licenses are best method we have for expressing the need.

MR. BARNES: Each state will have a separate problem. If it is to their advantage to have multiple licenses they will have that. Usually if they will get more money over the other they will use that because federal aid is a contribution. That will determine the type of license that each state will use. With that in mind I think we will have to stick with the system that the state wants to use and not the federal aid picture.

MR. KABAT: How many states would have a more or less legislative problem on their hands?

MR. RUHL: Most important is how to get the most money in the pot.

MR. JORGENSEN: Great many sporting goods go out of mail order houses.

MR. STEEN: You will have to draw your own conclusions.

MR. SCHRADER: Unable to find time to prepare a talk for this subject. Problems of small water area land ownership. Problems associated with land ownership of the small water areas is work that

was done under my supervision in the past two or three years. Preservation of small water areas in pothole water country is major problem facing conservationists in Michigan today. Estimates in rate of destruction is 3 to 5 percent per year. Need not justify trying to save these areas. Print that point. Outlined approach to saving these water areas. Some areas range from two to three acres in size and there are several million of them. Without the complex of water areas that we find we don't have high production. Saving one type and letting other types be drained will not help because we must have both. Conducted investigation among farmers to find out what their solution would be. They did not want to sell these lands. Costs of acquisition would be all out of proportion to the cost of the land. Asked farmers would they give permanent easements to these lands. Would permit them to do everything that they do now except drain them. Some waterfowl biologists were concerned with that. Easements against drainage would not harm these potholes at all. Question came up as to whether or not this should have been done. Most have very little value for hunting. Primary value is for production of waterfowl. If we properly inform the public they will agree that we can go ahead and make easements. Wetlands produced would be saved for permanent waterfowl production. Ground work was laid. Easement approach is only approach to save them. Leases will not save the wetlands. Only permanent solution is to either buy or get permanent easements on them. Will cost a lot of money. Most logical way is to raise duck stamps. Federal Congress will not appropriate money. It will have to be done here. Three major problems. Carry forward program Region 3 started. Get areas located and easements and recommendations laid out. Sell public this is only way to save wetlands.

LAND ZONING - A POTENTIAL WILDLIFE HABITAT PRESERVATION PROGRAM

(Statement by Cyril Kabat, Research Coordinator, Wisconsin Conservation Department.)

Why are we beginning to be concerned with the use of "Zoning" in wildlife management? First, we are all recognizing that habitat losses for many of our important wildlife species are threatening their future population levels, if not their actual existence. At the same time, human population increases are resulting in greater demands on the dwindling wildlife resources. Present management programs, including varied hunting regulations, habitat improvement efforts, land purchases and leases, refuge establishments, etc., are not meeting the pressure of land-use changes which are resulting in wildlife habitat destruction.

Generally, those lands purchased and managed specifically for wildlife habitat preservation, such as wetlands for waterfowl, are considered as successful projects and their perpetuity is insured. However, the amount of land that can be purchased is obviously limited. Certain wildlife species, particularly farm game, require vast acreages of land on which must exist certain types of vegetation that in many areas have been destroyed in the process of growing agricultural crops. Ordinary land leasing has the advantages of providing a means by which certain management can be carried out and certain features sustained with only a low initial cost involved. However, most leases

are easily broken and the best of projects can be lost from one year to the next. The question here then is: Are there required wildlife habitat features that can be protected by zoning ordinances for relatively long periods of time?

General and subjective observations on the success of zoning programs directed to solve problems created by land-use changes in other fields have precipitated the desire to examine these programs to determine whether similar opportunities exist to preserve and manage wildlife.

A Zoning Definition

The term "Zoning" in wildlife management as it relates to habitat preservation and management has had limited use particularly in agricultural land-use programs. The following definition is adapted in part from Rowlands (1957): Zoning is the orderly and democratic way of approaching the problem of coping with rural land-use changes by establishing land-use districts. Rowlands was primarily concerned with rural ordinances. I have further adapted this definition to include wildlife as follows: Zoning is the orderly and democratic way of approaching the problem of imminent wildlife habitat losses resulting from land-use changes by establishing land-use districts to protect the public's wildlife resources. Quoting further from Rowlands: "Zoning's goal is not to put restrictions or limitations on people but instead to get the fullest possible protection of each person's rights by making sure that all use of land conforms to the general welfare of all the public."

Types of Zoning

Several types of land zoning have been highly successful; these include establishment of industrial areas, protection from flood damage, delineation of school districts, restrictions on establishing certain types of residences and use of land for agricultural or forestry purposes. While my review of the literature has not been exhaustive, my efforts nevertheless have been sufficient to convince me that zoning approaches as methods for preserving wildlife have been in their most basic meaning very limited as compared to Wisconsin's rural zoning program. The literature is, however, replete with reports containing recommendations and conclusions that wildlife habitat preservation could be or must be accomplished, in part at least, on agricultural or private lands through some type of zoning programs, but they do not spell out how this could be done.

There are three zoning-type programs that might be useful in wildlife habitat preservation efforts. One of these encompasses all wildlife resources. The second emphasizes specific needs, and the third involves both concern for all resources and specific needs. Harkness (1952) gave the following definition of zoning in relation to the preservation of wilderness areas: "Zoning is saving what we can or should and the necessity for zoning is definitely dependent upon the extent of the exploitation of our natural resources and the existence of the population pressure." While Harkness's report was concerned with wilderness areas which is a somewhat specific application of the zoning concept, it did involve multiple land use. He stated further: "The underlining principle of zoning is that it

provides an excellent basis for multiple land use, establishes some land areas for specific purposes and provides the most satisfactory protection for wilderness against exploitation which might destroy it."

Because time has not permitted a survey of zoning efforts in other states and because Wisconsin has had considerable success in about 30 years of "Rural Zoning" I have drawn heavily in this report on our state's program and experience.

Wisconsin's Rural Zoning Ordinances in Relation to Wildlife

Keeping in mind the definition made previously on zoning and wildlife habitat preservation, let's examine the Wisconsin Rural Zoning Ordinances to see just how this program might benefit wildlife resource management. First, zoning ordinances (Section 59.97 of the Wisconsin Statutes) are enacted and enforced under what is commonly called "Police Power". Further, Wisconsin gives counties the power, if they wish, to "... determine, establish, regulate, and restrict: (a) the areas within which agriculture, forestry, industry, trades and business, and recreation may be conducted... (b) the areas in which residential uses may be regulated or prohibited... and (c) the areas in and along natural water courses, channels, streams and creeks in which trades or industries, filling and dumping, erection of structures and the location of buildings may be prohibited or restricted". Also zoning ordinances must be "reasonable in application".

Three general classes of use-districts have been established in lower populated counties: forest, agricultural and recreational. It appears that recreational districts could be established to protect wildlife resources. Before examining our knowledge of wildlife habitat requirements to evaluate the possible management opportunities under a county zoning program, we need to consider the type of information required to determine the feasibility and type of zoning that might be carried out under rural zoning ordinances. Rowlands (1957) lists the following:

(1) Location of all publicly-owned lands (federal, state and county), privately-owned lands not on the regular tax roll (such as forest crop land), county forests entered under the forest crop law, industrial forests, private forests, and tax delinquent lands.

(2) Location of farms, both operating and abandoned and of farm markets.

(3) Location of non-farm residences.

(4) Rural schools, school district boundary lines, and school bus routes, particularly in the sparsely-settled areas.

(5) Main soil types, topography, stoniness, and the drainage system if available.

(6) Recreational lands showing improvements on lakes and rivers.

(7) Location of industries and commercial and industrial sites.

The group making zoning plans will also need a full knowledge of (a) the tax problems throughout the area to be zoned, (b) road and school costs per capita, (c) agricultural development, (d) the trend in forest and recreational land use, erosion control and watershed conservation, and (e) wildlife and game opportunities in the county. (Note Rowland's reference to wildlife and game.)

Known Wildlife Habitat Requirements and Information Needs

Considering the above information required for considering zoning, do we currently have enough comparable data on wildlife to evaluate the possibility of establishing use-districts to protect their habitat? The following general information is required for this purpose:

- (1) Distribution of species and habitat (range maps).
- (2) Hunter kill statistics or esthetic value estimates to determine species importance in various areas.
- (3) Species habitat requirements.

Generally, most species require a variety of different habitat features for nesting, feeding, resting, winter cover, etc. The relative importance of the different habitat requirements must be quantitated.

Now let's examine our knowledge of specific habits and habitat requirements, concentrating on major importance factors to determine whether we are ready to evaluate the possibilities of using zoning ordinances to preserve and improve wildlife habitat.

Forest Game Requirements

Prairie chickens in Wisconsin: From 30-50 percent of their range must be in grassland located in regions almost devoid of wooded areas including windbreaks.

Sharp-tailed grouse: Forest openings including 20-40 percent grassland.

Deer in winter concentration areas: Openings in the canopy sufficient to permit browse production (herd control also necessary).

Ruffed grouse: A combination of mixed stands of conifers, hardwoods and shrubs varying in age classes.

Aquatic Game Requirements

Muskrats, beaver, and waterfowl have no choice, they must have water in which to live and feed.

Farm Game Requirements

Quail: Contiguous hedgerows or brush islands.

Pheasants: A balanced amount of nesting, resting, and winter cover with ample winter feed.

Hungarian partridge: Habitat demands generally similar to pheasant.

Quail, pheasants, and Huns are relatively mobile. For example, quail movements average more than a mile each spring. Pheasants will move considerable distances to winter cover. Huns on occasion migrate many miles in winter as was observed in the winter of 1951-52 when these birds concentrated by the hundreds on areas as small as a golf course within the city limits of Manitowoc and Juneau Park and in the City of Milwaukee.

Both Huns and pheasants require further quantitative evaluations of the needed amounts of specific habitat types.

Squirrels: Specific and somewhat limited habitat requirements, namely wooded areas that produce mast crops. Squirrels may migrate under conditions of mast shortages but otherwise are relatively sedentary.

Cottontails: Require brush or rank growth of grass or weeds; quite sedentary.

Zoning Possibilities for Wildlife

Generally there are three considerations in zoning for wildlife; species whose habitat requirements may generally be found in a single habitat type, species that require a combination of different habitat types, and multiple use areas which may have important wildlife values.

Species that can find all of their habitat requirements in a simply definable "land-use district" appear to lend themselves quite well to a rural-type zoning. For aquatic game, the zoning approach appears to be a definite possibility since wetland areas are distinct units. In addition, wetland areas can be made quite productive for many species of aquatic wildlife through management. Ditches installed in certain types of marshes have yielded harvests as high as 15 muskrats per acre per year (Matthiak and Linde, 1956). The ditch banks in these marshes may also provide important nesting sites for ducks, some mink can be harvested here, and a potential for raising minnows in the ditches exists.

In forest areas the sharp-tailed grouse which requires forest openings containing about 20-40 percent grassland could also receive benefits from this type of zoning. This would be especially true in areas where openings are deliberately created or left for purposes of aiding fire suppression. If such openings also provide biological barriers for certain forest insects and diseases, the justification for zoning is further enhanced. Zoning would be needed to assure the existence of these openings. In regions containing soil types that are unsuitable for intensive forest management, a project designed to save sharp-tailed grouse openings would not conflict with this land use.

Miscellaneous benefits from zoning forest areas could be numerous. For example, zoning in wilderness-type areas could provide protection opportunities in cases where experimental plantings of such species as pine marten and fisher were made as was done in Wisconsin in recent years.

Land-use districts limited to specific areas might also be easily established for such farm game species as squirrels and rabbits. Both of these species find food and cover almost in the same brush pile or den tree they occupy.

For species such as pheasants that require a combination of different habitat sites which in some cases may be separated by relatively great distances, the establishment of use-districts on privately-owned land appears quite complex. However, even in these cases there may be a possibility to develop zones or use-districts that would benefit these species. Generally, agricultural lands produce farm game, that is, the normal farm practices yield some of the required habitat features. Missing factors such as naturally growing or planted winter cover could be protected by zoning if local people were willing. Naturally growing cover in hedgerows, however, allegedly conflicts with agricultural practices, hence a problem. The private landowner would not look very kindly at use-districts embracing the preservation of hedgerows without special incentives.

A third possibility for wildlife zoning involves the concept of multiple use, and appears as a possibility for species such as pheasants, quail, and Huns. For example, areas that are gridded with streams, rivers or ditches may provide an opportunity for farm game zoning. Bank cover in such areas would provide in many cases excellent roosting and nesting cover and at the same time slow down bank erosion. Here the multiple use concept offers a feature that private landowners should not oppose, particularly since cost-sharing for bank fencing and cover planting is provided under the ACP program in some states.

Any possibility involving multiple use that might have value in zoning for farm game birds lies in the establishment of wetland use-districts in certain areas, which as indicated previously would also greatly benefit aquatic game. Wetlands provide some nesting cover and also roosting opportunities. One of the values of wetlands for pheasants was indicated in a survey of the number of birds shot by hunters in wetland areas (marshes) and in surrounding uplands (Wagner, unpubl. data). In one township having 21 percent of its land area in marshland, 54 percent of the birds reported shot by hunters here were taken in the marsh areas. In two other townships having only 2.5 and 6.9 percent of their areas in marshland, 19 and 51 percent respectively of the reported birds were taken in the marshland. Thus, while upland game birds have habitat requirements that involve rather widely separated features, preservation of these components of good range under a rural zoning ordinance offers some possibility for better management.

Evidence of widespread interest in zoning is shown in the following county action. In addition to the many northern Wisconsin counties that have invoked zoning ordinances, two southern counties, Jefferson and Milwaukee, have invoked zoning ordinances relating to flood-plain problems. Waukesha, another southern county, also recently commenced zoning many of its townships. Included in the use-districts are wetland conservancy districts. Two other counties are very much interested in Waukesha's program, particularly in the "wetland conservancy districts".

In general, there appeared to be a number of opportunities that should be fully considered in wildlife management programs that may lend themselves to a land zoning program. Convincing agricultural landowners that wildlife use-districts should be considered will require positive proposals supported by sufficient facts on habitat requirements. In addition, methods will have to be developed providing acceptable remuneration to landowners for the adoption of wildlife use-districts under zoning ordinances. Such incentives as special hunting privileges through longer seasons and larger bag limits, tax exemption, technical assistance in development projects, and cash payments might create landowner interest in this type of program. Land leasing, cost-sharing, and land acquisition projects now in effect will certainly continue to be needed to provide a total management program to take care of areas not zoned. Watershed projects may offer special opportunities for developing wildlife use-districts. Sportsmen can participate in such programs by providing labor and development projects and funds to defray expenses.

In conclusion, the possibility of establishing use-districts for wildlife habitat preservation offers additional opportunities for expanding the existing zoning program to include different types of lands. This approach in wildlife management would be another step towards a "total land-use program" in which soil, water, agricultural crops, forests, fish and game habitat would be conserved and properly used for total public benefits.

Literature Cited

- Harkness, W. J. K.
1952. Zoning needs for wilderness areas. Trans. N.A.Wildl. Conf. 17: 13-20.
- Mathiak, Harold A. and Arlyn F. Linde
1956. Studies on level ditching for marsh management. Tech. Wildl. Bull. No. 12, Wis. Conservation Dept., 48 pp.
- Rowlands, W. A.
1957. How to make rural zoning ordinances more effective. Univ. of Wis. Extension Service, Circular 546, 21 pp.

MR. KIMBALL: Feel that in production habitat, need an entirely different type of refuge than we do for migratory waterfowl. Need a refuge manager in charge of all the potholes. Minnesota is in a project program. We are not doing too much in the line of easements.

MR. GALE: Ask Tom, on easement program, have you made any extensive investigation on what the easements would cost?

MR. SCHRADER: Nothing different would have to be pursued in the future. If farmers are paying tax on this land they want to get something for it.

MR. JANZEN: Many farmers would not want to give an easement or lease if they could not make it void when they sold the land. Strong opposition from the southern states on raising duck stamps. Now eliminated using money from duck stamps on many things.

MR. SCHRADER: If states value duck hunting, will have to help get the duck stamp raised. If they do this it might not be as hard to raise the duck stamp as it seems. If the sportsmen are going to have more hunting and fishing they will have to pay more money.

MR. EVANS: Two approaches. Either getting more money on duck stamps, otherwise states will have to raise money themselves and give to other states.

MR. RUHL: If we raise duck stamp and earmark it for land acquisition there is a problem that we may by law not be able to get finances for refuges. Which is greater risk to future waterfowl purposes? Minimum custodial staff and get easements before it is too late hoping we can back up later if we have to. Is this greater risk than fact that if we don't go for earmark we don't get the land? Easier for us to sell extra money for duck stamp if we note it will be used for land acquisition.

MR. JANZEN: Cut out all waterfowl investigations in Canada. This bill thrown out of Congress already.

MR. LEONARD: Transfer of Great Lakes operations to Bureau of Fisheries. Difficulty in getting highly trained personnel on part of all states. Great Lakes Commission. Try to maintain reasonable outlook on that.

POSSIBLE EFFECTS OF SEPARATION OF FEDERAL COMMERCIAL AND SPORT FISHERY ACTIVITIES ON STATE PROGRAMS

(Statement by Justin W. Leonard, Assistant Deputy Director, Research, Michigan Conservation Department)

Last week highly placed officials of the U. S. Fish and Wildlife Service informed me that this discussion topic, while of wide interest, is premature.

I am told that the Service's reorganization program involving the separation of sport and commercial fisheries has not yet proceeded far enough to provide a sound basis for stating just how the new set up may be expected to function.

From earlier contact with other state administrators I believe the states' apprehensions in the middle west are centered on the Great Lakes where commercial fishermen and sportsmen have long been fishing in the same bucket. Sources of friction and controversy are bound to be plentiful in such a situation. In the past, the Service's ability to officially comprehend the value of both uses has made it easier for the states to keep the public reasonably happy. Transfer of the Service's Great Lakes Operations to the newly formed Bureau of Commercial Fisheries may curtail federal contributions to both sides of the picture.

Probably the number one apprehension of the states is that separation may work to the general detriment of the Great Lakes Operations now chiefly concerned with the sea lamprey control program. Long memories recall the pinchpenny support accorded these operations

in pre-lamprey days and the rather general inability of marine fisheries administrators to see any importance in Great Lakes resources and problems. We may earnestly hope that the new bureau will not relapse into its earlier purblind condition.

The federal agency's part in sport fisheries programs in the region apart from the Great Lakes themselves presumably should continue with little change. Operation of the D-J program should be little affected by the change except for possible shifts in personnel which usually attend any large scale reorganization.

In any new planning of Federal programs in the middle west heavy stress should be given to research. Many needed investigations, especially on fish behavior, nutrition, and physiology, could most profitably be attacked by an agency which might serve all the states of the region from one laboratory.

We could be optimistic about our relations with the newly re-organized Service if we could feel that personnel changes would be held to a minimum. It is practically a truism that the worst organization in the world will work if people want it to and that by the same token the best organizational structure will not insure success if people drag their feet. The generally harmonious relations which have characterized state-federal cooperation on regional fisheries problems in the past has been and is primarily due to the caliber of the men involved. No doubt, in the future, we in the states will have to put up with a little more red tape than in the past but probably we should not start hollering "fire" until we see more smoke on the horizon than is discernible at this moment.

MR. CARLANDER: All fishermen are different on maintaining resources and habitat necessary for that resource. New re-organization retains Fish and Wildlife Service. Very important to take opportunity to show where sport and commercial fisheries have things in common. New program gives greater recognition to fish and wildlife policy.

MR. WESTERMAN: Appreciate being heard. Share opinion with two speakers before me in that we are not yet sure whether this re-organization has made it or not.

MR. JANZEN: 1957 act says there must be two bureaus. One for Bureau of Commercial Fisheries and one for Bureau of Sport Fisheries and Wildlife. All federal aid remains with the Bureau of Sport Fisheries and Wildlife Service. No problem.

MR. STEEN: I will now turn the meeting over to Director Kimball who will introduce Minnesota's Governor.

MR. KIMBALL: I just want to say at the outset that the best thing that ever happened to Minnesota Conservation was George Selke. Now I have the pleasure of introducing the man who got George Selke for us. I first met the Governor two years ago and he has been a staunch supporter of our efforts in the Minnesota Conservation Department. Here in Minnesota things are going very well in the Division of Game and Fish. I cannot take all of the credit because I have had such fine support from the Commissioner and the Governor, who is one of our best salesmen on fish and wildlife management.

Governor, this is not a large group, but it represents those who are Commissioners, Directors, policy makers, and the managers of conservation programs in the fourteen states of the midwest and the two Provinces of Canada. I would like at this time to introduce the best friend that conservation has in Minnesota, the Honorable Orville L. Freeman, Governor of the State of Minnesota.

GOVERNOR FREEMAN: Thank you very much, Jim Kimball, for the very kind introduction. Coming from you I doubly appreciate it. I am always just a little bit hesitant, for I fear I have little to contribute, when on occasion it is my pleasure to speak to groups who are specialists dedicated to particular fields. However, I do want to welcome everyone here, and wish to apologize for being a little late in doing so. We had some schedule complications which caused the unfortunate delay.

We in Minnesota take great pride in Itasca State Park. It is one of our prize possessions. I understand that some 550,000 people visited here last year, and many come back year after year to spend their vacations. I must admit that I have never had a really good tour of the park myself, but I'm going to correct that today.

You may be interested in knowing that the word Itasca is not an Indian word. The word Minnesota comes from the Indian words "Minne" meaning water and "sota" meaning sky blue. Actually, the word "Itasca" was a combination of two Latin words - "veritas" meaning truth, and "caput" meaning head, thus, Itasca means the true head or source of the Mississippi River. It was not actually discovered by Henry Schoolcraft in 1832, but twenty years earlier by William Morrison. It is interesting to note that in 1904 it took three or four hours to get here from Park Rapids which is twenty-three miles from here. Today, in those same three or four hours one can get here from the Twin Cities.

I believe we have extremely able and well qualified people in our Conservation Department. We are trying to plan sensibly and solidly to meet future conservation needs. I have always felt that when talking about our natural resources or our human resources we are in reality talking about the same thing because they go together. Natural resources serve our people and help in the development of our human resources. If the people of this great state have an opportunity to partake of and enjoy the great outdoors they will be healthier and happier.

It seems to me that many of our citizens are not familiar with the facts surrounding the upsurge in our population. In 1936, for example, when I graduated from high school the births in Minnesota for that year numbered about 40,000 - in 1956, our births were over 80,000. These figures become more meaningful when you consider that the individual life span has lengthened as well. In terms of conservation it means, first, more people who will want to use our natural resources, and second, increased competition for their use for purposes other than recreation. This combination of more people with more competition for space and utilization means greater pressure on our natural resources and more problems requiring careful planning.

We will continue to have more people, with more leisure time, who will be able to get around faster. The underlying nature of the job that has to be done is to protect and intelligently conserve that which we have, and to make more and more of these resources available. It is not a simple thing. We here in Minnesota are doing everything that we can to determine our needs and to plan an intelligent program accordingly. I believe I can break it down into four primary areas.

1. Personnel - We can't hope to do anything without people who are devoted to public service. I might say that rewards from public service are limited in dollars, but the satisfaction of a job well done for the benefit of the general public is indeed very great. I feel highly pleased that we have been able competently to expand our department under the overall leadership of Commissioner George Selke. Our present basic concern is to attract the kind of people to our state who share our beliefs in building a sound program. To make this more possible, we were able at the last Legislature to increase our pay scale somewhat. It is now, I think, comparable to private industry and we hope to keep it that way. In the last session I tried to expand the scope of our Civil Service classifications in order that the four Division heads in our Department of Conservation would enjoy a permanent status. The four Division heads, in office before Mr. Kimball and Dr. Selke joined the Department still serve without a Civil Service rating. In Conservation in Minnesota we think about the qualifications of the people we appoint and not their politics. We don't pay people off by getting them jobs they are not qualified to fill. I am happy to say that it has not been too difficult to follow this policy; and as long as I am Governor it will continue.

2. Program - We have tried here in the State of Minnesota to develop programs and policies that are consistent, but flexible. Our statewide programs must of necessity be on a long-term basis. We must stick with them regardless of special local problems and pressures; otherwise there can be no progress. As I stated previously, I am very pleased with the manner in which our State Conservation Department responds to the public. I have found that most people are willing to go along with a sound over-all program, if you give them the reasons why, if these reasons make good sense, and if the people understand them.

3. Education - In this area I think the department is doing an increasingly effective job. It is not an easy field in which to make real progress. We have added to our complement of personnel. We struggle constantly to interpret our actions in easily-understood ways. There is no area more sensitive to the pulse of the people than conservation. If we are to expect our people to accept changes, then we have to inform them. It seems to me that if you document your case, there is a reasonableness and willingness on the part of the people to listen and learn.

4. Research - There is at present a practical limit to the ability of our lands and waters to produce our renewable resources. Our lands will grow no larger, and our lakes will get no bigger. If we are to increase both the production and harvest of these resources, we need to know a great deal more about them so we can improve that production. I believe research can show us how to do this. As time

goes on, these resources will become more valuable as they provide increased pleasure to more people. It is a constant challenge but I feel confident progress can and will continue. Research is the Key.

I have enjoyed seeing and meeting you. We are proud you came to Itasca. God speed you in your important work.

July 11 - 1:40 p.m. (Afternoon Session)

THE PLACE OF WILDLIFE IN STATE WATER-USE LEGISLATION

(Statement by C. R. Humphrys, Associate Professor, Department of Resource Development, Michigan State University).

It is evident today, that the traditional legal attitudes toward eastern water resources are being challenged. The riparian doctrine which has served the East for well over 100 years will not accommodate irrigation and other consumptive uses.

The drive for change is being ably piloted by such agricultural interests as the Farm Bureau, the Grange and Soil Conservation Districts. The Federal Department of Agriculture is even providing expert professional advice to local agricultural interests. In several eastern states this movement has already succeeded in breaching the riparian doctrine and substituting certain concepts from the appropriation doctrine of the West.

The chief criticism of such movements is not the lack of need, or the right to use water, but the absence of a realistic analysis of all water uses, both present and future. Professional water resource men also point out that we do not have the factual information available upon which to base changes in water rights or to fabricate plans for water resource utilization. It is my firm conviction that agricultural interests, in their haste to satisfy their own recognized needs, will, unless challenged, override many traditional water uses, and create a complex legal situation that could not possibly be administered or enforced.

Resistance to this trend is strongest in those states having high water associated recreational values. Investments in riparian lands, cottages and beaches, the traditional hunting and fishing privileges, and all the aesthetic values of water have been utilized for so long and are valued so highly that any threat is quickly acknowledged and answered. The Lake States represent the stronghold of American sportsmen. If the water rights of these states can be broken or modified, no other eastern state will be able to withstand the current demands for rapid change.

Proposed Changes

1. Acceptance of Western Water Law

The first proposals to modify the riparian doctrine, merely involved the outright acceptance of the appropriation doctrine

of the West. The arguments against the appropriation doctrine increase in number and intensity as it is carried eastward.

a. Constitutionality

The most rigorous test that the appropriation doctrine must pass in the East is constitutionality. It is not conceivable, that, un-used or undeveloped water rights may be taken from lawful owners, except by due process of law and equitable compensation. The investments of riparian land owners are well recognized and subject to tangible evaluation. Even the intangible values are becoming better recognized by our courts.

b. Rigidity

Once the appropriation doctrine has been established, the allocation of water is frozen. New uses, regardless of their economic, moral or ethical value, must remain undeveloped. Today, industry cannot move westward because of the unavailability of water--the water is there, but all the rights of use have been perpetually locked to agriculture.

c. Economy

It seems ridiculous to assume, that a doctrine of water rights, developed specifically for irrigation, could be bodily lifted and promiscuously applied to other areas where the economy is geared not only to agriculture, but also to recreation and industry. In some areas it is quite obvious that industry and recreation represent a significant part of the economy, and must be protected.

d. Climate

The appropriation doctrine was developed for use in an arid or semi-arid climate. The physical climatic differences between East and West are so apparent that extreme caution should be observed in any attempt to use the legal principles of dry land water resources in an area having a humid climate.

In the face of these arguments, it now appears that the appropriation doctrine cannot be sold to the people of eastern United States. A new approach was necessary. The legal minds involved recognized the possibility of acquiring water resources under the broad police power of the states.

2. Police Power

All states and the federal government are legally authorized to act to protect the health, welfare, safety and morals of the people. This is the type of legal broad cloth that has already been stretched to extend numerous federal powers so far into the realm of states rights. It is also classified

as "creeping" or "galloping socialism" depending upon the degree of your dislike for socialism or the police state. Police powers are necessary but they have their place. A use of police power to justify the "taking" of private water rights imposes an unjust responsibility upon riparian owners. A necessary prerequisite for a justifiable use of police power usually involves great urgency brought about by loss or threatened loss of life or property, or danger involving health or morals. It would require considerable legal gymnastics to prove up a case which takes property rights in water from one group and distributes them to another group.

The approach under this method calls for the passage of a policy statement by the legislature. In this statement the value of water is described, the need of conservation practices are recognized and most frequently all "un-used" water is declared to be public property subject to appropriation. Alone, this policy statement is harmless, but with subsequent statutes to implement it, the appropriation of "un-used" riparian rights becomes a reality.

The arguments against this proposal are quite numerous--

a. Implements the spread of socialism

Today we are witnessing a revival of the states rights philosophy which is slowing down the incessant spread of federal powers. We might also pause and reflect on some of the ideals of democracy, as it affects individuals. Private ownership of property is the foundation of democracy. Can we afford to see more of our sacred private rights gravitate into a socialistic schism?

b. Constitutionality

Even if the necessity for such action could be produced, there still remains the requirement of compensating private property owners for "un-used" water rights. The purchase price of riparian land clearly reflects the value of associated water rights.

c. "Un-used" Water

The term "un-used" water has been imported from the West. In the western 17 states, used water is water that is diverted from a natural stream and is used consumptively for irrigation. In the East we still recognize the possibility of using water without becoming involved in diversion, irrigation or pollution. In fact, our idea of the highest use of water involves multiple uses of water. Even though our supply of water seems plentiful, we can no longer think in terms of a single consumptive use. In the East there is no "un-used" water. All water is used. It is true that some of the uses are aesthetic and intangible, but it is easy to point to many intangibles that occupy significant positions in our democracy.

Patriotism is an intangible value, but it has led many men to not only sacrifice of their property, but also their lives. Intangibles are difficult to measure on a slide rule but they cannot be pushed aside without due consideration.

If we admitted to the need or necessity of taking "un-used" water we would immediately be involved with the projection of this same theory into the fields of agriculture, forestry and industry. It could be argued that the "un-used" productivity of land could be "taken" and subsequently allocated to other parties. A farmer might find that he has a legal partner in his fields. He, as the original owner, would be entitled to the average yields of his land, but other parties could well exploit additional yields possible by use of additional increments of labor, fertilizer or seed. A home owner could even expect the "un-used" room to be assigned to another party.

d. Lack of Urgency

In order to justify the use of police power, there must be an undeniable urgency to protect health, welfare, safety or morals. The only example that approaches these requirements would be the use of police power to protect people from flood danger. This still leaves open the question of why the entire system of water rights in a state must be abandoned in order to protect a few isolated areas?

3. Minimum Flow Theory

A new approach that is receiving considerable attention in the East involves the establishment of a minimum flow for each stream. It is assumed that this minimum flow would not only satisfy the needs of riparian owners but that it would also represent his basic legal flow. All water in excess of this minimum flow would become public property and be subject to allocation. In theory, this concept is justified on the basis that all water over and above the minimum flow is flood water that is of no value to riparians.

Actually there appears to be little difference between this theory and the customary police power proposal that incorporates the taking of "un-used" water.

Arguments against this proposal--

- a. Definition of minimum flow must eventually involve an artificial or arbitrary concept. If the establishment of minimum flow becomes an administrative function, minimum flow could actually become no-flow.
- b. Availability of Data

Data is not available to realistically establish minimum flow determination for streams or tributaries to streams. Theoretically, no two points on a stream

could possibly have the same minimum flow.

c. Administration

The problems involved with enforcing this proposal could hardly be solved unless the value of water increased to a level of oil or other minerals. The maintenance of minimum flow would require massive data accumulation and constant balancing of natural supply against cultural uses.

d. Value of Flood Water

We cannot readily accept the idea that all water over and above an arbitrary minimum flow has no value. The natural hydrologic cycle would most certainly be upset with resultant changes in erosion and deposition. The flushing action of flood flow has perceptible effects on stream bottom ecology. Flooded areas, useful as spawning grounds for certain fish species would be eliminated. Water temperature, bottom type, aquatic plant species and fish species would all be subject to change or modification.

The most significant factor resulting from the acceptance of this proposal would be the virtual elimination of flooded lands, swamps and marshes. There would be immediate changes in all wet land vegetative cover and resultant effects upon their game and fish population.

Other possible effects that might challenge the imagination would be the decrease of silt deposition on stream benches, ground water recharge as a result of flooding and natural irrigation of low agricultural lands.

4. Stream Classification

Some thought has been directed towards a stream classification system. Each stream would be classified as to its highest use, starting with trout streams and gravitating downward through other recreational uses, water supply for irrigation, industry and municipalities with the lowest use being designated as waste disposal.

This proposal tries to avoid any objections that might originate from the recreationists, however there would be many problems associated with the administration of such a system, especially if we consider possible multiple uses of a single stream or different uses for various sections of the same stream.

5. Watershed Approach

In order to avoid being called an outright cynic, I feel that it is necessary to suggest at least one proposal in a positive, constructive fashion.

Even though there are serious objections to the above proposals we must admit that this water rights problem can and will be eventually solved.

I believe the solution will best be evolved by looking to watersheds as natural physical units of land that possess some continuity as to soils, cover, geology, climate and other physical characteristics. These natural watershed units also frequently enjoy a uniformity of land use and economy. This approach would avoid the most severe criticism of other proposals that attempt to "paint" an entire state with one brush.

A simple enabling statute, similar perhaps to the soil conservation district statute, would provide for voluntary, self financed, self administered water resource control by popular referendum of those people involved.

State agencies would be expected to protect the rights of associated watersheds, with the possibility of the usual legal relief being sought by people who believe they might suffer unduly as a result of the programs of associated watersheds.

No sweeping changes would be required. No water rights would be "taken" without compensation. If a majority of people in a watershed decided to irrigate, and wanted to secure a legal supply of water, it would be possible to buy out any conflicting users and organize their watershed in accordance with their needs.

Assumptions and Conclusions Relevant to the Current Eastern Water Rights Situation

1. Any deviation from the riparian doctrine will weaken recreational interests that are related to water.
2. Law is subject to popular opinion and should reflect public needs. Courts interpret law, they do not make laws. Courts are bound to take notice of political and social conditions of a country which they judicially rule. The public should be appraised of the recreational values of water and elevate these intangible values to a legal plane equal to the tangible products of industry and agriculture.
3. The appropriation doctrine is not adaptable to the East.
4. No water in eastern United States is "un-used." Any water right is valuable and if taken by due process of law it is reasonable to expect equitable compensation.
5. Many of the recreational values of water are intangible in nature, however, these intangibles have never been duly recognized. If public interest in these intangible values could be intensified it is quite possible that they would gradually become more acceptable to the courts.

6. Recreationists in the East have not been too interested in water rights. The only resistance to current legislative proposals has originated from the fishermen and hunters.
7. Irrigators will eventually cease their head-on attack and depend instead on the establishment of water rights by outright prescription. All new proposals covering water rights bend over backwards to protect all existing uses. If an irrigation project is in operation it is quite probable that it will be protected by any new statute.
8. Consumptive water users will turn from surface water to ground water as a more reliable source of supply. Legally there is no more protection for ground water users than for surface water users, however there has been much less interest in ground water and proof of real or assumed damage to riparians is a more complex problem. In many instances there is just as much possibility of damage to riparians when ground water is used as when the supply is drawn from surface water sources.
9. Pollution should be considered as a consumptive use. In cases of excessive pollution, the water may as well have been used consumptively for all possibilities of re-use are destroyed.
10. Surface water and ground water are merely parts of a single physical resource. Any consideration of water rights cannot logically cover only surface water and leave the ground water question open or subject to future study.
11. Artificial water bodies are becoming more important. Lakes created by uncovering the surface water table or by damming streams offer the only relief for additional water in some areas.
12. A new argument that implores speed of action, revolves on the theory that if the states do not solve their internal water problem, the federal government will enact legislation. Recent emphasis on states rights offset the effectiveness of this argument.
13. Current water needs are known and can be studied for proper consideration, however provision must be made for new uses that are yet unknown. This factor in long range planning emphasizes the need for flexibility in any system of water utilization.

Lines of Defense

1. Sufficient data is not available to either establish or administer new water rights statutes.
2. When new proposals are submitted, a careful investigation should be made to determine who wants the change, how many people will benefit and how many people will actually suffer losses of water rights.
3. Consumptive uses of water might be challenged. If damage to riparians appears evident, it is quite possible that relief can be obtained through the courts by issuance of restrictive injunctions. This action would probably deter any continued expansion of consumptive uses.

4. More literature on the intangible values of water resulting from non-consumptive uses should be made available for the public.
5. Use of strong emotional arguments may be justified. In dealing with the recreational values of water the only tools available are intangible in nature. This line of defense has not been utilized and may become extremely useful.
6. Recreationists should be organized in order to promote an active interest in water rights.
7. Legal counsel should be available for parties interested in the defense of their riparian rights.
8. New legislative proposals aimed at strengthening the riparian doctrine should be introduced.
9. Any legislative proposal submitted for consideration, should be framed in the language of professional knowledge covering physical water resources. Much of the confusion in water rights can be traced to archaic terminology and erroneous hydrologic concepts.
10. New benefits provided for non-riparians and consumptive users should be balanced by equal benefits to riparians and non-consumptive users.
11. A study of leading or ruling cases cannot be expected to light the way for future decisions. Each case involving water rights is different and no court need accept former cases as a precedent.
12. The shadow of doubt, cast by the question of constitutionality, will frequently kill a legislative proposal prior to introduction.
13. The "foot in the door" approach will be utilized by those interested in change. This approach most frequently follows the pattern of a broad policy statement followed by specific statutes to implement successive degrees of change.

THE PLACE OF WILDLIFE IN STATE WATER-USE LEGISLATION

(Statement by G. E. Sprecher, Assistant Director, Wisconsin Conservation Department).

As you have learned from my colleague, Professor Humphrys on this panel today, the revision of water-use legislation is the concern of every state in the Eastern part of our country. This is due in part to a growing use of water resources and the subsequent need for readjustment of regulatory statutes. However, it is largely due to a concerted effort on the part of agricultural interests, through such agencies as the Department of Agriculture's Soil Conservation Service, the Agricultural Colleges and their federally-related Extension Services. To this may be added a number of University Law Schools which have produced either "model" water resources acts or recommended bills usually based on Western water laws favoring the interests of those who asked for this assistance.

A typical result of this procedure is the "Model Conservation of Water Resources Act" in process of development at the Research Center of the University of Michigan Law School. I am informed that this Act would establish a single Water Resources Commission appointed by the Governor which would take over water regulatory functions in the state. While it may have considerable merit in some fields such as pollution control and the requirement of permits for almost all types of water utilization other than domestic use, it has many questionable points. It seems that the word "wildlife" appears nowhere in the Act and aquatic life is recognized only in relation to pollution control. The definition of "beneficial use" required that such use be consistent with the public interest, but there is no definition of what constitutes "public interest" or "public welfare."

Further study of this tentative proposal indicates that the suggested Act does not recognize the fact that water use by wildlife is a natural prior use which must be preserved. Instead, it sets up a system of priorities and zones under which wildlife may receive consideration after agricultural or other uses. Also, it would grant long term water-use permits which could be conveyed as property to the detriment of riparian water rights; it would allow for continuation of existing water uses to the detriment of the public interest even though such uses presently were illegal or undesirable; it would permit the condemnation of land by the Commission in order to secure right-of-way for water use anywhere in the state; and in times of water shortage, the Commission even would be empowered to divert water from one watershed to another. All of this power is carefully detailed with almost no reference to any limitation of water use when the public interest in wildlife, recreational or scenic uses is in jeopardy.

This example is similar to Wisconsin's experience where the University Law School prepared a recommended bill on this subject at the request of the State Soil Conservation Committee which was based on a graduate student's 1951 thesis. This student was then hired to prepare the bill for introduction in the 1957 Wisconsin Legislature. This bill was sponsored in the Wisconsin Legislature by the Farm Bureau and caused considerable confusion and concern before the muddy water settled. Although this still is an active issue in Wisconsin, I believe an explanation of our experiences and developments during this first phase of a battle for recognition and preservation of wildlife and other recreational water-use values, may be of interest.

Most of those here present are well aware of the great value of wildlife, and the recreational industry in general, to the Midwest's economy. Depending on what things are included, Wisconsin calculates the annual value of this industry, third largest in the state, between one-half and three-quarters of a billion dollars. So far as hunting and fishing alone are concerned, our recent Crossley survey showed that about a million Wisconsin resident hunters and fishermen spent about 62 million dollars in pursuit of this type of recreation in 1955. This not only is a very conservation estimate, but it does not include any of the state's tourist trade characterized by the largest sale of non-resident fishing licenses in the country.

In Wisconsin, as in most Midwest states and provinces, water is the very life-blood of the conservation program based on the recreational aspects of wildlife and the scenic outdoors. Over 650 kinds of amphibians, reptiles, birds, fish and mammals depend upon available water supplies and for many it is a life or death matter. The natural ecology of almost 9,000 lakes and 33,000 miles of mapped waterways

depends upon the stability of this water used by many hundreds of insects and aquatic plants. Recognition and preservation of this type of prior "beneficial use" has been one of the goals of the Wisconsin Conservation Department.

As background to our recent Legislative session, Conservation Director Voigt issued a set of "Ideal Goals" in January, 1956 containing a number related to water. Three of these read:

1. "Constantly protect and defend the rights and interests which the citizens of our state inherently possess in navigable waters."
2. "Urge the people of the state to adopt and recognize the principle that the use of water areas by fish and other wildlife is a prior and original use to be preserved unharmed for future generations."
3. "Recognize that water-use priorities are different depending upon each water area and that public rights and interests must be determined in each specific case after public hearings to determine the desirable priority use."

This latter goal indicated a willingness to co-operate with agricultural and other private interests in the beneficial use of water wherever there was such need and an available surplus which could be used without damaging the wildlife or recreational potential. In this same spirit of co-operation, our Department participated in the Wisconsin Natural Resources Committee of State Agencies discussions on water-use problems and the preparation of an inventory which was published as "The Natural Resources of Wisconsin" in December last year. Also last December, this co-ordinating body, of which the Governor is Chairman, authorized the establishment of a special Water-Use Legislation Subcommittee to study this subject and prepare recommendations for presentation to the 1959 Legislature. This brings us up to the 1957 legislative session which started in January and adjourned about two weeks ago.

Although all state agencies concerned with natural resource problems participate in the state co-ordinating body, the water bill developed by the State Soil Conservation Committee was introduced in both Houses of the Legislature by the Farm Bureau along with considerable publicity and pressure for immediate favorable action. A hearing before the joint agricultural committees was tied in with a hearing for benefits for potato growers and packed by such private interests wishing to divert waters from lakes and streams for irrigation. Most of the available discussion time was taken up by the proponents of this bill - the University Law School authors, the State Soil Conservation Committee, the Farm Bureau and potato growers.

Fortunately the several state agencies administering water regulations were successful in urging that any changes in the state's water legislation should be made with great care and only after consideration of all aspects of water use. There was strong public reaction opposing a number of the changes this bill would have made - especially as they related to the emasculation of existing riparian water rights and general lack of consideration for wildlife or recreational uses except for a standard "lip service" type of statement. In many respects this bill was not unlike the "Model Act" being

prepared at the University of Michigan Law School. I am happy to report that it died without even a favorable report from the joint agricultural committees.

Instead of the passage of any all-inclusive water law, the Wisconsin Legislature by joint resolution set up a study committee of the Legislative Council to give this subject, as well as watershed control, complete analysis during the interim and report back to the 1959 Legislature. The similar study planned by the Natural Resources Committee of State Agencies will be correlated with the Legislative Council survey.

Two other less inclusive water bills in the recent Wisconsin legislative session should be mentioned. One would have authorized the issuance of permits to farmers who wanted to change a water course on their own property by digging a new channel. This bill was dropped and by joint resolution added to the Legislative Council's study of water and watershed problems. Another bill aimed specifically at giving certain potato growers permission to continue irrigation on all lands they owned, whether riparian to water or not, was amended to limit such permits until the 1959 Legislature meets and also limit withdrawal of water to maximum previous withdrawal. In addition, there was written into the law this statement: "If the Public Service Commission in consultation with the Conservation Commission, upon investigation, finds that the withdrawal is detrimental to other riparians or to the stream or lake, the Public Service Commission shall revoke and withdraw the permit."

Generally, wildlife and recreational uses of water stand a very good chance of losing either in quality or quantity - or both - when permission is granted for other so called "beneficial uses" in addition to ordinary domestic and riparian uses as we know them today. For instance, irrigation of crops is a consumptive use which may return less than half of the water to its source. The fact that such irrigation is most necessary in periods of drought and low water could make wildlife conditions critical unless adequate controls were enforced.

At the present time there is a great lack of knowledge on such questions as what may be minimum needs for fish and other aquatic animals. Also, there is a dearth of data on such vital subjects as water levels, volume and speed of flow in relation to most of the state's surface waters. Because ground waters are so closely related to surface waters, their relationship needs much more study if the public interest in wildlife and other outdoor resources is to be protected.

Fortunately, the Wisconsin Supreme Court in a number of cases over the years, has pretty well defined and protected the public interest in their decisions. This court has included most all our surface waters in the class of "navigable waters" and declared that they "are public waters and as such they should inure to the benefit of the public." Their decision of 1951 in the Namekagon River case not only gave any citizen the right to enter a legal complaint if these qualities of water were in jeopardy, but also stated: "The right of the citizens of the state to enjoy our navigable streams for recreational purposes, including the enjoyment of scenic beauty, is a legal right that is entitled to all the protection which is given financial rights."

In order to give the Wisconsin Conservation Department a good foundation upon which to prepare its case for the use of water by wildlife and in outdoor recreational pursuits, our Conservation Commission recently adopted a policy statement on the protection, development and use of water. Besides reviewing the judicial and legal background and its plan to promote research on water problems and co-operate with other interested groups, this policy statement includes the following points which I quote:

"(1) The use of public waters by fish and other wildlife must always in all cases be recognized as a public interest and a natural use equal with any domestic use.

"(2) All waters in the State are a matter of public concern and are inseparably a part of the public interest whether underground or on the surface. Action will be aimed toward:

- (a) the stabilization of waters on a watershed basis to reduce soil erosion and siltation and extreme water fluctuations.

- (b) the preservation and restoration of their quality and quantity.

- (c) the maintenance of waters in natural basins and channels necessary to assure full public use and the prevention of waste as well as the unnecessary destruction of lakes or wetlands by filling or dredging.

- (d) the protection of our ground water reserves since they directly or indirectly affect the surface waters.

"(3) The Commission recognizes the importance of water for industrial or other private purposes; however, the use of water for private benefit beyond the right of reasonable withdrawal according to riparian law, must be judged in each individual case in relation to the public interest which must not be injured or placed in jeopardy by any grant for private benefit. Any permits for private use of public waters must be subject to cancellation or modification if the public's right or interest in the specific water is being destroyed and no inherent rights of the public in the State's navigable waters shall ever be permanently and irrevocably transferred to any private person, corporation or use."

We do not believe that we have won this battle for maintaining the place of wildlife and recreational values in the water-use controversy. In fact, the major problem of proving these values in comparison to other private water-use benefits still remains to be solved. However, the Wisconsin Conservation Department will continue to do its part to promote the public interest in the state's waters, and expects to increase its vigilance so far as wildlife is concerned. To date, it is our experience that so-called "Model Water Law" proposals prepared in other states seldom are applicable to Wisconsin conditions and proposed laws prepared by or for agricultural or other private interests require careful scrutiny and considerable modification to preserve wildlife habitat.

MR. SELKE: There is no question in the minds of those who are interested in game and fish that there is a definite competition where the use of water is concerned--water for sanitation, agriculture, industry, forestry, mining, and recreation, depending where you are the circumstances. If any of these have priority, we will take it first. I wish to point out that there is competition for use of water in mining, agriculture, and forestry. In farming, with the production that we have now, we have to discover a way to increase the production per acre. In agriculture and in forestry, the percentage is high. Supplemental irrigation, too, is a problem. As Mr. Sprecher pointed out, so little of that water used by supplemental irrigation comes back to be used again. In domestic use, mining and industry, the danger is from pollution. Whenever it is used for industry, you have that problem. A lot of our streams are good places for wildlife. The only reason that it is still available for wildlife is because it is inadequate for agricultural purposes because of flooding. I do wish to point out that we have had our hopes placed upon the solution of our water problems. I think agricultural is important. The number of people producing food in proportion to the rest of the population is decreasing rapidly. We are going to have some problems.

MR. BURWELL: The Federal government has reserved the right to manipulate the water in the Mississippi River, but it is necessary in the overall program to put that water to provisional use--agriculture and many others. We are short of land on which to store water. Gradually water rights are likely to slip away from us. Water is not listed as beneficial use to eastern states.

MR. SELKE: It is not just agriculture, it is industry, too.

MR. TOWELL: I am presiding over the discussion this afternoon on waterfowl, which is an important subject. This is my first appearance before this association as a director. I think it is a matter of definition when we are speaking of migratory waterfowl. I was interested to note earlier in the session that acquisition of wetlands is the greatest problem facing us in the country today, the answer to the problem of preserving our wetlands. The first paper today will be the progress report on acquisition of lands.

PROGRESS REPORT ON ACQUISITION OF MIDWEST LANDS FOR WATERFOWL BY U. S. BUREAU OF SPORT FISHERIES AND WILDLIFE

(Statement by S. E. Jorgensen, Assistant Regional Director, Bureau of Sport Fisheries & Wildlife, Minneapolis, Minnesota).

The first national bird refuge became a reality when tiny 3-acre Pelican Island off the Florida Coast was set aside in 1903. From this modest beginning the Federal migratory bird refuge program has grown until it now embraces over 3,000,000 acres in the United States and possessions.

But it was not until 1924 that acquisition of lands for waterfowl actually started in the Midwest. At that time Congress appropriated \$1,500,000 for the purchase of Upper Mississippi River bottomlands.

By 1929 public interest in waterfowl conservation had grown to such a point that it resulted in the first real Federal legislative authority for a broad program of refuge acquisition and development. Based upon the 1916 Migratory Bird Treaty Act with Great Britain, the new legislation was called the Norbeck-Andresen Migratory Bird Conservation Act. Section 12 of this Act provides for the following:

..... The acquisition ... of suitable areas of land, water ... for use as migratory bird reservations .. and for the administration, maintenance, and development of such areas and other preserves, reservations, or breeding grounds frequented by migratory game birds ... including the construction of dams, dikes, ditches, flumes, spillways, buildings, and other necessary improvements, and for the elimination of the loss of migratory birds from alkali poisoning, oil pollution of waters, or other causes, for co-operation with local authorities in wildlife conservation, for investigations and publications relating to North American birds, for personal service, printing, engraving, and issuance of circulars, posters, and other necessary matter and for the enforcement of the provisions of this act ...

The Act also established the Migratory Bird Conservation Commission which has since passed upon all purchases of land made under the provisions of the Act.

Surveys of areas suitable for waterfowl were immediately started in all 48 states. None of us here are so young that we don't remember this as the start of the great drought, and the dust bowl, an era that became known in American history as the frenzied thirties. Water disappeared from marshes, ponds and potholes--waterfowl numbers reached their lowest point in history. The refuge acquisition program with its bright beginning withered because of a lack of funds for continued purchase and development during the start of the depression.

It was at this time that a man appeared upon the scene who more than anyone else saved the day for waterfowl. We all know him. He is a Midwesterner. His name is Ding Darling. Named Chairman of a special waterfowl committee by President Roosevelt in 1934, Ding with tongue, pen and cartoons proclaimed the plight of waterfowl and was successful in securing several million dollars to buy lands and to construct dams, dikes, buildings, fences and other facilities for migratory birds.

Also at this time the Duck Stamp Act was passed bringing added revenue to acquire and develop lands for migratory birds. Mr. Darling drew the design for the first Duck Stamp.

During this period, the 1930's, several important Midwest refuges were acquired, including Chautauqua in Illinois, Seney in Michigan, Squaw Creek in Missouri, Arrowwood, Des Lacs, Lostwood and Upper and Lower Souris in North Dakota, and Sand Lake, LaCreek, and Waubay in South Dakota, Mud and Rice Lakes in Minnesota, and Valentine in Nebraska.

By 1937 acquisition and development was in progress on 62 different refuges. In North Dakota and Montana, landowners co-operated by granting perpetual flooding easements in the important waterfowl breeding and rearing areas so that dried up marshes could be restored.

Another Government program of the thirties was acquisition by the Resettlement Administration of submarginal agricultural lands, some of which were suitable for waterfowl development. Necedah Refuge in Wisconsin and the Mud Lake Refuge were secured in this way.

At the close of the 1930's all appropriated and emergency funds for land purchases were expended and Duck Stamp receipts have been the only appreciable source of land acquisition funds since that time. There are a few exceptions to this but only one applies to the Midwest and that was the transfer by Act of Congress of the Crab Orchard Ordnance Plant, some 44,000 acres, to the Fish and Wildlife Service in 1947.

Even though there has been little in the way of special appropriations for refuge acquisition since 1940, the Service has continued to make notable progress in expanding the waterfowl refuge system by securing suitable areas acquired by other Federal agencies. Authority for wildlife use of such areas comes through the Co-ordination Act of 1934 which was broadened by amendment in 1946. Many excellent areas have been made available to the Service without cost for land. Notable examples in the Midwest are the Snake Creek National Wildlife Refuge on Garrison Reservoir in North Dakota and the Mississippi River Refuge bordering Missouri, Illinois, Iowa, Wisconsin and Minnesota. These lands were secured under a General Plan from the Corps of Engineers. Likewise under this Act the Service has been able to secure many thousands of acres of wildlife lands for administration by State fish and game departments.

In 1949 the price of the Duck Stamp was increased to \$2.00, making more funds available, but it was necessary to use part of this revenue for development and operation and maintenance of new projects since no other funds except unexpended P-R funds have been available. However, the land acquisition program was expanded and new areas have been acquired as rapidly as options could be taken and the purchase cleared through the Migratory Bird Conservation Commission. From Fiscal Year 1949 thru Fiscal Year 1956, a total of \$4,392,167 has been expended out of Duck Stamp funds for the purchase and lease of lands in the United States.

Coming closer to home, what has been the 'progress' of the Service's land acquisition program in the Midwestern States forming this Association? As stated previously, the program in the Midwest first started on the Upper Mississippi River in 1924. Let's look at the record from 1924 thru June 30, 1956. We find that the Service has 105 migratory bird refuges in the Midwest totalling 1,028,401 acres. Of this total 26,272 acres are reserved from the public domain, 512,091 acres were acquired by other Federal agencies, 3,149 acres have been secured by devise or gift, 376,792 acres have been purchased, and 88,396 acres are leased. There are an additional 21,701 acres of meandered waters controlled within refuge boundaries. The cost of the 376,792 acres purchased amounted to \$4,471,584. The estimated cost of real property in migratory bird refuges in Region 3, which does not include Colorado and Kansas, including lands, dams, dikes, buildings, roads, levees, and other improvements acquired or constructed with Service funds amounted to \$40,790,000 as of June 30, 1956.

A breakdown by States shows the following:

Colorado	1	refuge	totalling	6,412	acres
Illinois*	5	"	"	59,343	"
Iowa	1	"	"	64,093	"
Kansas	2	"	"	12,305	"
Michigan	4	"	"	99,231	"
Minnesota	4	"	"	138,579	"
Missouri	3	"	"	39,378	"
Nebraska	3	"	"	122,049	"
North Dakota	69	"	"	287,683	"
Ohio	1	"	"	82	"
South Dakota	6	"	"	50,103	"
Wisconsin	6	"	"	149,143	"
Indiana	None				
Totals	105	"	"	1,028,401	"

*The Upper Mississippi Refuge and Corps of Engineer's lands administered within and below the Upper Mississippi Refuge (3 units) are included in the number of refuges in Illinois but the acreages are distributed in the other four States concerned.

The large majority of the 69 refuges in North Dakota are areas where perpetual flooding easements have been obtained. It will be noted that the Service has not acquired any refuge lands in Indiana and only 82 acres in Ohio. Diligent efforts have been made to acquire areas in these States without success. However, an area in each State is now being seriously considered.

This paper would not be complete without mentioning some of the problems encountered in acquiring lands. I believe it has already become clear that the biggest problem has been lack of funds. This has been especially acute since 1940 because for the most part the only funds available have been Duck Stamp funds. The market price for land suitable for refuges has increased many-fold during the past 15-20 years. All State Administrators here today are keenly aware of this fact, I am sure. Many potential refuge areas have been bought by private gun clubs. Further, the Service's criterion has changed--in the early period emphasis was on acquisition of marshlands--today it is necessary to acquire marsh with adjacent farmlands so that supplemental food may be provided. Further, there are very few willing sellers these days. It is very difficult to secure suitable options. The problem of recruiting, training and retaining appraisers and negotiators has also been difficult.

During the past two or three years, many complaints and criticisms have been levelled at the Service because it has not acquired more lands for waterfowl. Some allege that Duck Stamp funds have been used for other purposes. In this connection we shall let the record speak for itself.

For each acre the Service has purchased, it was necessary to appraise five acres. For each dollar spent on land, it has, of course, been necessary to spend funds in appraising, negotiating and surveying acquired lands and in administrative costs for record compilation and

maintenance, real property management, and in acquiring the use of public domain or lands acquired by other Federal agencies.

Criticism has been voiced because picnicking, swimming, boating and fishing have been permitted on some refuges. The Service believes in granting these recreational opportunities to our citizens as long as such use does not jeopardize the purpose for which the area was acquired.

There have been complaints that the Service has used Duck Stamp funds for refuge development and operation and management when the funds should have been used for land acquisition. It should be understood that acquiring land is in most cases only the initial phase of waterfowl management on refuges. These lands must be developed so that the requisite requirements of waterfowl for food, cover and protection must be met. The habitat must be developed so that the refuges will be of value to the greatest number of species, particularly during emergency periods.

What of the future? Will it be possible to acquire, develop and/or preserve sufficient habitat so that future generations will enjoy the waterfowl resource. Draining of wetlands for agricultural use, spreading cities, highway construction and other requirements of an expanding human population make the eventual fate of waterfowl on this continent most uncertain. In 1934 a study showed that we have 120 million acres of marshes and wetlands--less than 30 million acres remains 23 years later. It is abundantly clear that unless we preserve our wetlands the waterfowl resource as we know it will soon be a thing of the past.

Fortunately we have over the past 20 years accumulated data and knowledge showing where the need is most important but if we are to get the job done we will need more funds than the sale of Duck Stamps will bring. Additional funds should be provided for an accelerated land acquisition program. It is somewhat startling to realize that to date the waterfowl hunter has footed most of the bill and yet the recent National Economic Survey of Hunting and Fishing Expenditures clearly reveals that many segments of our economy benefit substantially from the migratory bird resource--yet they contribute little to its perpetuation. In a recent year the Federal Government appropriated from the General Fund only 2/3 of one cent for fish and wildlife resources for each dollar spent by our citizens in harvesting these same resources. And these economic values are greatly outweighed by other great physical, social and spiritual values not possible of monetary evaluation. Yes, we can easily make an excellent case justifying greater Federal expenditures for waterfowl.

In closing this paper, it would be remiss if mention was not made of the highly significant contributions made by the State fish and game departments in acquiring and developing lands for waterfowl. Our records show that over 400,000 acres of land costing almost 10 million dollars have been acquired by the States and they have about 14 million dollars in developing these lands. These expenditures were made under the P-R program alone and it's gratifying to know that Midwest States have been the leaders in this program.

Much has been accomplished but much more must be accomplished if future generations are to enjoy the sport of wildfowling. With 49 shoulders to the wheel, all pushing, I am confident that job can be done.

AN APPRAISAL OF THE VALUE OF WATERFOWL FLYWAY COUNCILS IN WATERFOWL MANAGEMENT

(Statement by Thomas R. Evans, Superintendent of Game Management, Illinois Department of Conservation).

Waterfowl Flyway Councils have now been in operation for approximately five years. Although the Councils do not necessarily represent the first or only attempts to get some co-ordination in waterfowl management they are the most positive step in this direction, and they offer the best possibilities for united efforts in the interest of sound management of one of our wildlife resources. The Councils were conceived and organized with high ideals. It is, perhaps, time to take a look at the progress that has been made and to appraise their value in our waterfowl management program.

Although I have been in close touch with the Mississippi Flyway Council since its beginning either in a co-operating capacity representing the Wildlife Management Institute or as a representative of a member state, I feel quite inadequate to make such an appraisal. I have, therefore, called on the experiences and opinions of other persons in all four flyways. This appraisal represents a composite of opinions. The unanimity of these opinions would seem to indicate that all Councils have operated in a similar manner and with equal success.

A brief review of the background and history of Council formation and of the purposes behind their organization is in order.

Since the Councils are composed of administrators and technicians, I believe we should go back to the waterfowl organizations which preceded the formation of the Councils. In the Mississippi Flyway the waterfowl biologists felt a need for some sort of formal organization as early as 1947. At the Midwest Wildlife Conference at Purdue University in December of 1947, the first meeting was held to discuss the possibilities of setting up a waterfowl group. By January 1948, the organization was in operation as the Mississippi Flyway Committee and issued its first newsletter in March 1948. The Committee continued to operate, holding one or two sessions a year until it was affiliated with the Mississippi Flyway Council in 1952. Although the Committee was not formally recognized by the administrators as an official organization of state and federal employees, many of them did give it a great deal of support, and the Committee work laid valuable groundwork for the future Councils.

A similar organization known as the Black Duck Committee in the Atlantic Flyway preceded the Mississippi Flyway Committee. It was later to become the Atlantic Flyway Waterfowl Committee with Northeast and Southeast Sections. It too, is now affiliated with the Atlantic Flyway Council.

At the Midwest Wildlife Conference at Columbus, Ohio, in 1950, and at the North American Wildlife Conference in March 1951, midwest sportsmen began action to form what they chose to call a Waterfowl Association to be composed of outdoor writers, sportsmen, administrators and technicians. The proposal was rejected, and at the meeting of the International Association of Game, Fish and Conservation Commissioners in September 1951, a resolution was adopted calling for the establishment of the flyway Councils. Within six months representatives of the states had met and organized the four councils now in operation. In the case of the Mississippi Flyway the organizational meeting was held in January 1952. Our Council held its second meeting at St. Louis in July 1952, at which time the Mississippi Flyway Waterfowl Committee presented an organizational plan to the Council. This plan was adopted by the Council, and the Committee became known as the Technical Section, Mississippi Flyway Council.

What of the purposes and objectives of the Councils as first conceived? I believe it is well to present these objectives for both the Council and the Technical Section, since together they present a broader picture of the proposed programs for waterfowl management.

The objectives of the Mississippi Flyway Council as adopted in 1952, are:

- (1) To increase participation by the individual states in nesting and wintering inventories of waterfowl.
- (2) To increase participation by the individual states in recommending waterfowl regulations to the U. S. Fish and Wildlife Service.
- (3) To organize flyway councils to be made up of technical and administrative personnel of the official wildlife agencies in the four flyways.
- (4) The organization of a national council to be composed of two representatives from each of the four flyway councils.
- (5) Appointment by the U. S. Fish and Wildlife Service of waterfowl co-ordinators in each flyway, whose duties would be to serve in an advisory capacity to the states and to aid in co-ordinating waterfowl surveys and other investigations pertaining to waterfowl management.

The purposes of the Technical Section as adopted by the Council deal more with the problems of managing the waterfowl resource. They are:

- (1) To act as a consulting body to administrators in waterfowl management.
- (2) To standardize the techniques for collecting and disseminating waterfowl data.
- (3) To circulate technical findings within the Council.
- (4) To co-ordinate waterfowl research.
- (5) To assist the Council in developing or adopting a flyway management plan.

Are the flyway councils making progress toward their stated objectives? Have some of them been reached? What have the Councils accomplished to justify their existence? I believe they can claim several worthy accomplishments as suggested by persons from all four flyways.

One of the major achievements has been the co-ordination of research work and along with it the collection, analysis and compilation of research findings throughout the flyways. The technical sections have been pulling together, through various committees, the research or investigational and survey findings in each state on such matters as kill, crippling losses, migrations, periodic inventories, amount of habitat remaining, trapping and banding techniques, status of the Wood Duck, Canada Goose management and dispersal, etc. Pulling together the information on all these subjects has been and will be valuable in future waterfowl management.

Although techniques for securing highly accurate kill figures may not be completely adequate, the information is useful. It may well pinpoint the areas where certain species' or segments of a species' population are shot hard, and where they are virtually unshot. This can be useful in future species and area management. A development such as this would come slowly in the absence of a flyway-wide organization and the consequent interchange of information.

A listing of data and information collected through the years by the old Mississippi Flyway Waterfowl Committee and published in the Flyway Newsletter would contain the following samples: Composition of the 1948 Bag In The Mississippi Flyway; An Analysis of Duck Weights From Ten States; A Presentation of Public Shooting Area Management In Five States; Annual Reviews of Fall Flights and Hunting Seasons For Flyway; Development of the Cannon Net Trap In Waterfowl Banding Work. These are only a few of the aspects of waterfowl management covered by reports of data, information and developments from states throughout the Mississippi Flyway. In addition innumerable reports of technical findings in individual states were reported in the Newsletter. Most such findings, although of too preliminary a nature to be published, do prove of value in flyway management by making them available to other waterfowl workers through the flyway organization.

At the time the Councils were organized several states in the Mississippi Flyway did not have biologists working on waterfowl problems. Now, after five years of Council operations, every state has a waterfowl specialist. This has been a big factor in co-ordinating research and investigations and in securing waterfowl data from the entire flyway. Compilation of data on status of the Wood Duck on a flyway-wide basis is an outstanding example.

Without doubt one of the primary values or accomplishments of the Councils has been the development of better teamwork between the administrators and the technicians. It is no secret that in the past in some states, little reliance has been placed on the findings and recommendations of the waterfowl technicians, or other technicians for that matter. As administrators have met together in Council meetings and have listened to reports of findings and recommendations of technicians from other states, they have, I believe come to have greater confidence in their own technical people. They have found a unanimity of thinking and procedures among the technicians which can

only lend greater credence to their findings and recommendations. This increased confidence is positively reflected in the dependence and reliance of the Council on the Technical Section. As unanswered questions arise, involving various phases of waterfowl management, the Council requests the Technical Section to make a study of the problem and report to the Council. The frequency with which these reports are accepted and used as the basis for Council action reflects the fine teamwork between the administrators and the technicians. This is, I believe, one of the leading achievements of the Councils. Needless to say there are also instances when reports and recommendations are ignored for administrative or other reasons.

Certainly greater co-operation has developed between the flyway states and the U. S. Fish and Wildlife Service. There still is room for improvement in this field. This will continue to be the case so long as states place great emphasis on securing special regulations to favor them when such regulations are in conflict with sound management of the waterfowl resource on a flyway basis. As one State in the Central Flyway put it, "a much better understanding now exists between it and the Fish and Wildlife Service after many years of bitter feelings between the two agencies." I am sure most states will concur in this feeling. Under the present set-up the Fish and Wildlife Service provides periodic reports and information to the states in time for them to be considered prior to meeting together as Councils. The states have an opportunity to learn the feelings of their commissions and sportsmen's groups, which can then be passed on to the Service. This is in contrast to the area meetings of earlier days, conducted solely by the Service, where sportsmen and state administrators presented their views and recommendations, often in extremely "heated and bitter" atmospheres and without benefit of research and studied consideration beforehand. Discussions and considerations between the States and the Service are on a more scientific and co-operative basis under the Council set-up.

A third major accomplishment, and perhaps the most monumental one, is the preparation of flyway management plans. To anyone who may feel that this is not a monumental task I can only say that you must not have participated in the effort. Having served on the committees to prepare both the first Mississippi Flyway Management Plan and the second one now in final stages of preparation, I can testify to the immensity of the job. If the present plan is finally adopted and implemented by the Council as a unit and by the states individually, it will mark one of the most important accomplishments in wildlife management. The mere fact that the individual states recognize the need for such co-operative effort and that what they do will be beneficial to other states and to the resource is in itself a major accomplishment. The ultimate result of flyway management plans may well be a continental waterfowl management plan. Council sponsored activities, particularly banding and periodic inventories, indicate a greater exchange of birds between flyways than was believed to be the case. If it is ultimately found that this exchange, even though for only one or two species, is great enough, there will be need for inter-flyway management considerations. In the absence of the flyway councils it is highly probable that such evidence would have been much slower in coming to light. Doing something about it would even more difficult without the co-operation that is possible through flyway and national councils. Canada goose management is an outstanding example in this case. Discussions in Technical Section and

Council meetings have led to better understanding of good management in some states and to the realization that other states, especially in the south, should and probably can practice similar management.

A fourth, but by no means least, accomplishment of the flyway councils has been the recognition of special problems, and special techniques to meet them, including some differentials in harvest regulations within a flyway. Throughout the years the Fish and Wildlife Service has been faced with demands from individual states for special consideration in setting regulations. These include such things as openings prior to October 1, by northern states, closings later than January 15, by southern states, larger bags by northern states to compensate for weather-shortened seasons, bonus birds of certain species because of depredation problems, zoning of states and split seasons.

In the past the Fish and Wildlife Service has been extremely reluctant to grant any special concessions since they would establish precedents. It was difficult to sell other states on the justification for special concessions. The Council set-up has brought about a change in this respect. Some dangers still exist, as will be mentioned later, but by and large states have come to appreciate the differences that exist and to see the justification for special considerations. Bonus birds have been granted on pintails, limited zoning has been tried and substituting an extra bird in the bag for less shooting days is being experimented with. Other states have not only accepted these things but have participated in recommending them largely as a result of the close co-operation attained in the Councils. In this instance I may be unjustifiably generous in appraising the motives behind the more or less united recommendations. In some case "back-scratching" may have played a part. Nevertheless it cannot be denied that this is an accomplishment of the Councils.

This very practice of "back-scratching" may illustrate in a forceful manner the value of and need for an agency such as the Fish and Wildlife Service. Some agency that can stand apart from the Council and the member states, take a careful, critical, impartial look at the various recommendations made and make decisions which consider the resource first is certainly indispensable. The deliberations of the Councils and conflicting demands of the member states have pointed up this fact.

Other purposes and objectives of the Councils have also been achieved. Individual states are participating in nesting and wintering inventories and in banding operations. Most states are now sending technicians to Canada to assist the Fish and Wildlife Service in production surveys and in banding. This has been a major accomplishment of the Councils.

A national waterfowl council has been organized and the Fish and Wildlife Service has appointed waterfowl co-ordinators to work with the Councils and the member states.

In soliciting opinions and information from other states I received some suggestions as to how the value of Council work could be increased. These are passed along for consideration.

One such recommendation is that the annual meeting where regulations are to be discussed be held as late as possible after production data is available. This idea has been discussed almost from the time the Councils were first organized. About two years ago the Mississippi Flyway Council had about agreed to hold its regulations meeting as late as possible in July. The thought was that, if necessary, a Fish and Wildlife Service representative could fly down from Canada with the latest, up-to-the-minute breeding grounds data on which the Council could base its recommendations. This idea was suddenly abandoned at a meeting held the following spring in conjunction with the North American Wildlife Conference. Since then reliance has been placed on winter inventory and breeding-pair data coupled with a formula calling for certain season and bag limit combinations under varying population levels or trends. If this procedure does not prove too satisfactory, consideration should be given to later meetings so recommendations can be based on actual conditions existing at the time.

A second recommendation is for greater co-operation between the flyways, with the possibility of the four councils meeting together once a year. Some such meetings are held with a rather limited program. As more inter-flyway complications arise, it may be desirable to expand these meetings to provide for full-scale study and consideration of continental problems. The exchange of certain segments of populations between flyways and the apparent greater east-west movement of some species points up the need for co-ordinated flyway work. A specific example involves periodic inventory work by the Mississippi and Atlantic Councils. It became evident a year or two ago that a given population of redheads was moving eastward from the central portion of the Mississippi Flyway to the South Atlantic Coast. However, the Atlantic Flyway inventory work was halted the same year the Mississippi Flyway started. Had this effort been carried on simultaneously, this movement of birds probably could have been pinpointed more definitely.

A third recommendation applies particularly to the technicians. That is that too much data still is presented in a form not easily digested by non-technical personnel. The technical section reports to the Council and the Council's releases to the public should be in easily understood language of as non-technical a nature as possible.

An appraisal of the value of flyway councils would not be complete without some criticism and without some warnings of possible dangers ahead. All has not been "sweetness and honey" in the past and will not be in the future.

Several real dangers are present and are inherent in any such organization. They can, however, be guarded against and need not develop if the member states keep alert and exhibit a high degree of integrity in their deliberations.

One danger is that they may become lackadaisical, and as California put it "soften up" in their deliberations. They can get into the habit of drifting along with more or less uniform regulations rather than coming to grips strongly with new problems that arise or as new

evidence comes to light indicating the desirability or need for changes in management practices. The Councils must remain virile organizations vitally interested in trying to improve the management of the resource for which they are at least partially responsible.

The second real danger is that the integrity of the deliberations may be allowed to decrease. I should like here to point out one thing that the Councils are not or should not be - that is "horse-trading" or "mutual back-scratching" organizations. Evidence of this practice is apparent in some instances. These comments relate back to the previous section dealing with the member states' recognition of special needs in some instances. Is this recognition more apparent than real? Are states merely voting for special consideration for some state in exchange for a vote in their favor later on? Frankly, it appears that way, and it represents an unhealthy situation. If each state cannot vote honestly some of the value of the Councils ceases to exist. On the one hand great harm could be done to the waterfowl resource if regulations came to be based on such actions. On the other hand the U. S. Fish and Wildlife Service cannot help but lose all faith in the recommendations and will again have to depend entirely on its own findings and judgment. In that event the Councils may as well fold up their tents and silently steal away, because they will have little value.

In summary I feel there is little doubt but that the flyway councils do have great value in furthering the wise management of our waterfowl resource. They have gone far along the road toward realizing the purposes and objectives set forth at the time of organization. They will continue to have value and to make progress only so long as they maintain a high degree of integrity in their deliberations and in the recommendations they make for waterfowl management.

MR. EVANS: I wrote to five states. Each reports a composite of opinions. Value indicates that the four councils apparently have operated in uniform manner and achieved uniform success. This is based on the history of these councils.

MR. CLARKE: Wildlife management will now have charge of everything. Write to Ernie Palor for brochures.

MR. KIMBALL: New business.

MR. SCHRADER: We should have the Midwest Fish and Game Commissioners' annual meeting on the second Tuesday of July.

Mr. Kimball introduced Lee Kuluvar, the Assistant Director of the Firearms Safety Section in Minnesota.

LEGISLATIVE COMMITTEE REPORT BY MR. EVANS:

I regret to say that the Legislative Committee has not been very active the past year. This inactivity has been due entirely to failure of the Chairman to get going. The committee report, therefore, will consist of a review of the more important legislation now in the Congressional hopper.

The chairman at least has been under the impression that this session of Congress has been rather quiet insofar as conservation issues are concerned. In checking with such persons as "Pink" Gutermuth and Charlie Callison I find that this is the case. To date there have not been the heated battles over critical issues that have taken place in the past. We have not been fighting the defensive battles required the past three or four years to hold the line in conservation. Perhaps we have demonstrated our strength since some real defensive victories have come our way recently.

We may be making a mistake if we do not become more active during this session. This should be a good time to take up a strong offensive in an effort to make progress on conservation legislation rather than merely to hold the line. The following is a review of some of the issues in which we might be taking a strong, aggressive stand.

POLLUTION CONTROL

One of the major victories in this session once again was a defensive one. A strong attempt was made to delete the \$50,000,000 appropriation included in H. R. 6287 for pollution control. The Bill was passed by the House after defeat of the Fisher Amendment, and on June 12 was passed by the Senate, but cut the appropriation to \$45,000,000. As of June 15 the bill was under consideration by the Senate-House Conference Committee. (Conservation News-Vol. 22, No. 12, page 2.)

DUCK STAMP

A number of bills have been introduced to increase the Duck Stamp fee and to earmark various percentages of it for land acquisition. One salient difference is that some refer to refuge land acquisition and some to wetlands purchase. The International Association resolution of September, 1956, avoided reference to "refuges" and called only for acquisition of valuable wetlands. I am sure a resolution will be presented at this meeting.

H. R. 6691, Reuss (Wisconsin) refers to wetlands only, increases the fee from \$2.00 to \$3.00 and earmarks all receipts for acquisition in United States and Canada.

H. R. 624, Engle (California) and H. R. 3632, Johnson (Wisconsin) provide that not less than 40% of stamp receipts must be used for acquisition of waterfowl areas.

H. R. 8057, Boykin (Alabama) increases the fee to \$3.00 and provides that 35% shall be available for migratory bird refuge acquisition, and that not more than 55% shall be used for administration, maintenance and development of refuges.

The Boykin Bill was amended to provide no increase in fee and to earmark 65% of funds for marsh acquisition. It was approved by the Sub-Committee July 1, 1957. Full Committee has objections to new section on waterfowl production areas.

NATIONAL FOREST RECREATION

Here again a large number of bills have been introduced, all of a similar nature, but no action has been taken. No doubt the proposed program of the U. S. Forest Service "Operation Outdoors" has been a factor in not getting action on these bills. The fact that "Operation Outdoors" has bogged down indicates the need for a drive either for it or for one of the many bills listed below:

H. R. 4301, Porter (Oregon); H. R. 3972, Udall (Arizona) and H. R. 347, Metcalf (Montana) all earmark 10% of national forest receipts for use in recreational and wildlife use in the forests. They set an \$11,000,000 limitation.

H. R. 619, Elliott (Alabama) and H. R. 3335, Hagan (California) also earmark 10% of the receipts but set a limitation of \$5-1/2 million.

OUTDOOR RECREATION RESOURCES REVIEW

The proposal by the Izaak Walton League to establish an Outdoor Recreation Resources Review Commission has received a great deal of attention from Congress with a number of bills introduced.

One of these bills S. 846, Anderson (New Mexico) et. al. was ordered reported favorably by the Senate Interior and Insular Affairs Committee on June 18.

Other similar bills on which no action is reported are H. R. 7230, Doyle (California); H. R. 4819, Port (Idaho) and H. R. 4822, Porter (Oregon).

RESERVOIRS RECREATION

Several bills have been under consideration to give recognition to recreational benefits in the planning and development of federal reservoir projects. National conservation organizations are supporting the proposal with some amendments.

S. 1164, Kerr (Oklahoma) was given a hearing on March 12, 13 and 14 at which most testimony was favorable.

S. 1221, Case (South Dakota) also has been under consideration. It differs from S. 1164 in that it proposes to include wildlife development and benefits along with general recreation.

H. R. 4648, Edmondson (Oklahoma) is similar to S. 1164.

S. 410, Bible (Nevada) authorizes establishment of recreational facilities at reservoirs and reclamation projects having national significance. In other cases recreation should be a state or local responsibility.

WATERSHED PROTECTION AND FLOOD PREVENTION

The small Watershed Act Public Law 566 is again up for amendment. Several bills have been introduced to provide for inclusion of wildlife and recreational developments in small watershed projects.

H. R. 5497, Sikes (Florida) would provide for federal cost sharing with local interests for measures installed "for recreational and fish and wildlife development." A sub-committee of the House Agriculture Committee held a brief hearing on the bill March 5, but took no action. H. R. 4306, Sikes (Florida) would broaden the purposes of the Act to include recreational developments.

H. R. 6538, Hays (Arkansas) provides that the benefits which will arise out of fish and wildlife development resulting from watershed works of improvement shall be included in the assessing of over-all benefits.

H. R. 5547, Johnson (Wisconsin) provides that the cost of "measures primarily for erosion control" would not have to be added into the project cost when determining cost-benefit ratios. This one could have had implications depending on what is interpreted to be "measures primarily for erosion control." This could make otherwise undesirable projects eligible from the standpoint of cost-benefit ratios. A hearing was held on June 25, at which some national conservation organizations testified favorably. I have no word on action taken.

DAMS AND RESERVOIRS

S. 555, Morse (Oregon) et. al. has been backed by conservation organizations primarily as a means of blocking more damaging lower dams such as Bruce's Eddy and Penny Cliffs. My latest report is that the bill was voted on unfavorably in the Senate Committee on Interior and Insular Affairs.

MILITARY LANDS BILL

The number one bill dealing with military land withdrawals and hunting and fishing on military lands is the Engle Bill H. R. 5538. Other bills deal with hunting and fishing or with land withdrawals separately.

H. R. 5538, Engle (California) passed the House on April 11, but apparently no action has been taken by the Senate.

S. 557 Bible (Nevada) and H. R. 608, Dawson (Utah) are the same as H. R. 5538.

S. 496, Chavez (New Mexico) et. al.; and S. 962 provide that hunting and fishing on military lands shall be in compliance with state laws, and state law enforcement officers shall be admitted for enforcement purposes subject to security clearance.

SOIL BANK

Since the inception of the Soil Bank Program wildlife agencies have been trying to get two major changes in the Act. Former North Dakota Commissioner Bud Morgan has made a tremendous effort to get these changes along with several others.

H. R. 6714, Jones (Missouri) provides for the two major changes requested. One would make the head of the State Game and Fish Agency a voting member of the State Soil Bank Committee. The second provision would give state game and fish technicians responsibility for conservation reserve acreage wildlife practices. If the Soil Bank Program is continued, this is a good bill to push hard.

S. 2179, Young (North Dakota) amends the Soil Bank Act to include wetlands in the Conservation Reserve Program.

MISCELLANEOUS BILLS

H. R. 1058, Bennett (Florida) and H. R. 1127, Fascell (Florida) authorizes acquisition of up to 1,000 acres for establishment of a Key Deer Refuge. The House Committee filed a favorable report on June 13.

H. R. 7966, Watts (Kentucky) provides for the use of CCC surplus feed grains for wildlife purposes.

This constitutes the report of the Legislation Committee. In some instances further information can be provided on some bills. This is not a complete listing of bills on any of the foregoing subjects since there are in some cases, many identical bills.

H. R. Morgan, North Dakota
H. D. Ruhl, Michigan
I. T. Bode, Missouri
Tom Evans, Illinois, Chairman

MR. KIMBALL: Is it in order that we take action to see whether or not we will appoint committees throughout the year to keep us informed?

MR. STEEN: Reports of committees would not be in annual reports. If there is any value, it should be in active committees. Moved that action is in order. Motion carried and seconded.

MR. WILSON: If there is no objection, I want to say that I am here as a guest talker by the courtesy extended to me by Commissioner George A. Selke and Director James W. Kimball. On the point of this motion, I would just like to make an observation as a former chairman of legislative committees, etc. I want to emphasize that you got to carry on active campaigning to get heat from back home. You can't depend very much on Congress. Over and over again its promises have

been repudiated. You have got to have your group organized like a military liaison. Write to all local groups and organizations and encourage them to write to their Congressmen, etc.

MR. EVANS: Motion made, seconded, and carried.

THE SOIL BANK AND WILDLIFE

(Statement by H. R. Morgan, North Dakota Game and Fish Department).

Until the fall of 1955, it was considered patriotic to intensively use every available acre of land for production of food and fiber for man's consumption.

Most of the 14 years preceding had found us in war, or stockpiling these items because of a threat of war.

Humans were not the only species to suffer from World War II. Casualties occurred in the wildlife world when wildlife began losing homes to the intensive land use brought on by these conditions.

If I were to dwell upon wildlife's need of habitat before a group such as this, it would be an insult to the group's intelligence. I will merely say that the period from 1941 to 1956 was the period of greatest challenge to those who were charged with the responsibility of producing game.

During this period of intensive land use, many agricultural products were produced in surplus. Finally these surpluses became an economic problem of such magnitude that some action was demanded. They threatened an important segment of the nation's economy.

The Agricultural Act of 1956 was the result of this threat.

Overnight the philosophy of land use was reversed. In a matter of months, it changed from one of intensive use to one of banking fertility in lands which were not presently needed for agricultural production. Between one growing season and the next, it became patriotic to retire land from production, rather than to make new land available for producing greater surpluses.

Naturally the man charged with game production in competition with intensive agricultural use of the land, was happy.

But in his happiness in realizing that he might have less competition with agriculture, he also realized certain other things. He visualized a great potential for increased wildlife habitat upon these retired acres, but he also realized that if wildlife was to receive the greatest benefit from these acres, habitat of certain types should be developed in a planned and orderly manner.

The Congress had recognized wildlife as one of four natural resources to benefit from the Act. It agreed with wildlife people that a crop of wildlife could be produced upon soil bank acres without defeating the objectives of the Act. But it left to the Secretary of Agriculture to determine in what way this Act was to benefit wildlife.

Not until the fall of 1956, were wildlife people to learn how wildlife habitat was to be provided under the Act.

On August 22, 1956, regulations governing the Conservation Reserve Program, which is the portion of the Soil Bank Act from which wildlife can most benefit, were published.

Of the 12 practices established by the Secretary of Agriculture as practices which would be eligible for annual rental and cost-share, three were listed as being beneficial to wildlife. They were designed to produce wildlife habitat in one form or another. Wildlife people had assumed that each of these would be given equal consideration with other practices established under the regulations and authorized under the Act. They were disappointed to find that this was not to be the case. Wildlife was being discriminated against by regulation set down, not by the Congress, but by the Secretary of Agriculture.

Not only was wildlife being discriminated against in that some wildlife practices received less cost-share; in some instances wildlife received less consideration in length of contract for certain practices which were comparable to other practices included in the regulations. The obvious intent of the Act, that of assigning responsibility for carrying out the technical phases of the wildlife practices to those with interest and experience was completely ignored in the regulations.

These regulations first appeared in August, 1956. In September, the International Association of Game, Fish and Conservation Commissioners met in Toronto for their 46th convention. Because of the nature of these regulations, an emergency appeared to exist and an 11th hour change was made in the program of the International. The Soil Bank Act was brought up for discussion. The Secretary of Agriculture was invited to appear to defend his interpretation of the Act as reflected in the regulations. He sent in his place, a Mr. Hamilton who was in charge of the Conservation Reserve Program of the Soil Bank Act.

Two important accomplishments of this discussion were: First, Mr. Hamilton was impressed with the fact that wildlife people were not satisfied with the way wildlife was to fare under the regulations. Second, as Resolution #1, the International went on record with the following:

SOIL BANK MODIFICATIONS

Whereas, the Agricultural Act of 1956 includes wildlife conservation as a specific purpose of the new Soil Bank Program, and

Whereas, The state fish and game departments, together with national conservation organizations, were instrumental in obtaining recognition of wildlife conservation as one of the specific purposes of the Soil Bank Act, and

Whereas, The Soil Bank Program can be one of the most beneficial programs of our time to wildlife and fish conservation if wildlife conservation is given a proper place in its administration, and

Whereas, Officials of the Department of Agriculture have shown a tendency to regard wildlife conservation as strictly incidental in the Soil Bank Program and to relegate the state fish and game departments and the United States Fish and Wildlife Service to the position of advisors rather than active participants in the Soil Bank program as made evident by instructions issued recently by the Secretary of Agriculture for the guidance of state administrative committees, and

Now, therefore, be it resolved, that the International Association of Game, Fish and Conservation Commissioners does hereby request that officials of the Department of Agriculture accord the state fish and game departments and the United States Fish and Wildlife Service their appropriate active roles in the administration of the Soil Bank Program, as contemplated by the Agricultural Act of 1956, and

That the Secretary of Agriculture be requested to modify these regulations, to wit:

1. That members of the Fish and Wildlife Service and the various state wildlife departments be appointed as members of the administrative committee of each state, thus representing wildlife interests in the planning of soil bank practices in each state.
2. That wildlife practices receive eighty per cent of the total cost of establishment.
3. That wildlife practices may be contracted over a period of from 5 to 15 years in the case of woody plantings at the election of the landowner.
4. That the Secretary of Agriculture offer, to each state wildlife department, a contract under which such state department would be delegated authority to implement the provisions of the Act which deal with wildlife development and management, and reimburse such wildlife department for such service, as provided for the Forest Service.
5. That other features of the regulations, established by the Secretary of Agriculture office, dealing with establishment and management of wildlife cover, be modified as need for such modification becomes apparent, to the end that this important natural resource shall benefit from the provisions of this Act.
6. That co-operators shall not be required to repay any previously received subsidy payments in order to qualify for payment for any practice under the Conservation Reserve Program.

That the president of this association be requested to appoint a permanent Soil Bank Committee, and

That the congressional delegations of the states represented in the International Association of Game, Fish and Conservation Commissioners be urged to request that the Department of Agriculture give genuine consideration to the participation of state and federal wildlife agencies in the Soil Bank Program.

That the Secretary of Agriculture, the chief of the Agricultural Conservation Program Service, and other officials of the Department of Agriculture be informed of the dissatisfaction of the International Association of Game, Fish and Conservation Commissioners with the attitude of the Department of Agriculture toward giving wildlife conservation and wildlife conservation agencies full partnership in the Soil Bank Program as contemplated by law.

- 0 -

A Soil Bank Committee was named and charged to act for the International in an attempt to see that the six points covered by the resolution were satisfactorily resolved. A record of that committee's achievements is as follows:

On September 7, prior to the meeting of the International, I wrote Secretary of Agriculture Benson. Copies of my letter requesting changes in the regulations went to state wildlife conservation administrators. In his answer, which was not received until after the convention, the Secretary stated that he felt wildlife was receiving proper consideration under existing regulations.

Before this answer was received, on September 24, to be exact, I met with the Secretary in Washington, D. C., and again appealed to his sense of justice. At this meeting, he requested that I write him at length detailing my contentions. This was done on October 1, 1956. Copies of this letter were also sent to game administrators throughout the United States. It may be assumed that both my September 7 and October 1 letters were answered by the Secretary's November 6 answer.

On October 16, Acting Secretary of Agriculture, Trus D. Morse, wrote the Secretary of the International regarding the resolution passed by that organization on soil bank. Mr. Morse stated that in some instances it might be possible to give favorable consideration to points brought out by the resolution. He further stated that the International was in error on certain points, and that on points I and IV, he refused to change existing regulations.

On October 30, I wrote all members of the soil bank committee to report on a meeting which I held with Fish and Wildlife Service personnel in Washington, D. C. At this meeting I requested the co-operation of the Service in correcting the regulations. The result was a letter signed by then Director, Farley, and directed to Paul M. Koger, chairman, Intradepartmental committee on soil bank practices for the Department of Agriculture. This letter requested that Agriculture consider certain specific changes in the regulations. The letter was completely ignored. Mr. Farley did not even receive an acknowledgement in spite of the Act, which provides for co-operation of game and fish departments and the Fish and Wildlife Service in formulation of program provisions.

In January of 1956, I again went to Washington to appear before the House Committee on Agriculture. The Soil Bank situation at that time was as follows:

Point I of the resolution adopted by the International requesting voting membership for the game director of each state on the state administrative committee has been refused by the Secretary of Agriculture.

Point II of the resolution requesting that government cost-share be 80 per cent on wildlife practices as on others, has been complied with, in part.

Point III of the resolution requesting that the contract period for woody plantings for wildlife be the same as that for shelterbelts had been raised from five to ten years, at the election of the landowner. Amendment 2 (Federal Register, December 29) establishes same contract for woody plantings under practice G-1 as for practice A-7.

Point IV of the resolution requesting that responsibility for development of wildlife habitat practices should be assigned to wildlife technicians, rather than soils technicians, and that the various state game departments be reimbursed by the federal government for such services, has been refused.

Point V of the resolution requesting modification of other features of the regulations has been, in part, complied with.

Point VI of the resolution, requesting a reversal of the ruling whereby applicants wishing to plug drains would be forced to repay any federal aid received for establishing the drain, has been complied with.

This leaves but two of the six points included in the resolution, which have not been advantageously modified.

These were point I and point IV. They were considered of major importance. They were stressed before the House Agricultural Committee by Charles Callison of the National Wildlife Federation and I.

The result of this hearing is H. R. 6714, introduced by Congressman Jones of Missouri, which if passed will amend the Soil Bank Act to partially correct the Act with respect to these two points.

The committee on soil bank has succeeded in getting the Secretary of Agriculture to make changes in regulations governing the Conservation Reserve program. Each change has improved the status of wildlife under the provisions of these regulations. The ultimate has not yet been accomplished, however. There remains to be done, the following:

With one exception, I believe the resolution passed by the International covered needed changes in the Conservation Reserve Regulations. That exception being that wetlands be made eligible for Conservation Reserve payments, irrespective of crop history. Such interpretation, I believe, would be a great deterrent to the drainage of our rapidly vanishing migratory waterfowl habitat. I recommended this idea while appearing before the Agricultural Committee of the U. S. House of Representatives, and since that time, I have received a letter from Senator M. R. Young of North Dakota stating that he would offer an amendment to the Soil Bank Act which, if passed, would provide for this.

In working as Chairman of the Soil Bank Committee, I have come to the conclusion that point I of the resolution is not as important as originally thought. It makes little difference, in my estimation, whether one man on this fairly large committee (one from A.C.P., one from C.S.S., one from S.C.S., the state director of extension and the farm forester) shall have a vote or act in an advisory capacity. Unless he can convince the committee that his contentions are sound, he will accomplish nothing in either capacity.

Point II of the resolution still needs to be modified. Cost-share for carrying out wildlife practices should in no instance be tied to cost share for erosion control practices. Let each stand upon its own two feet and receive 80 per cent of the average cost of establishing the practices as outlined by the State Administrative Committee.

Point III of the resolution should provide for a contract period of up to 15 years for woody wildlife plantings at the election of the landowner. It is now a ten-year maximum contract unless the county committee sees fit to extend it to 15 years. The regulations should be amended to provide for a ten-year contract for herbaceous wildlife cover practices as is the contract term for A-2 practices.

Point IV of the resolution should be agreed to by the Secretary of Agriculture without modification, including reimbursement to the Game and Fish Department for department services.

Point V of the resolution is unimportant and may be disregarded at the present.

Point VI of the resolution has been carried out.

I should like to see this organization give favorable consideration to a resolution which will be offered by the Research Commission.

In summary, I would say that I believe we have accomplished much in changes to the regulations governing the conservation reserve program. In each instance, the change has been beneficial to the wildlife potential of the Act.

To me, the habitat which may be developed on conservation reserve acres may mean perpetuation for some species and greater production for others.

I believe that each individual charged with the responsibility of managing game is duty bound to do all in his power to get for wildlife the most benefits possible under this Act.

I believe that continued effort toward this end will pay substantial dividends.

And finally, I believe that both those within and those outside of established game organizations who enjoy the hunt, must carry on an educational program during the next year. This program must educate landowners to the benefits both monetary as a current benefit and by improved land as a long time benefit, which they can derive from choosing wildlife practices provided for under the Conservation Reserve Program.

I do not believe that the Soil Bank program is meeting the needs of wildlife, at this time, but I believe that the wildlife habitat potentials of the Conservation Reserve Program present a challenge to all who are employed in game management. In but few cases have we met that challenge. We have taken the attitude that because regulations governing the wildlife practices were not tailor made to our liking we would refuse to take advantage of their existing potential. In doing this, we have been cutting off our noses to spite our faces.

These regulations need changing, but they provide the most wonderful opportunity for you to get wildlife habitat that you have ever had, in their present form.

When have you been able to sell a landowner on placing land in wildlife habitat as a profit to him, with Uncle Sam picking up the check? How long do you expect Congress to make these practices available if you show no interest in them? When will the Fish and Wildlife Service assume its responsibilities of leadership in the wildlife field by providing trained personnel to standardize the mechanics of the several states in dealing with Agriculture on a basis whereby we, the folks with interest in and experience with habitat development, will be the ones who establish this habitat? But can we afford to wait for someone else to take the lead?

Three important things need doing now. We must impress the Secretary of Agriculture with the fact that establishment of wildlife habitat is a highly technical job which the Soil Conservation Service is not staffed to handle. We must agree upon standard procedure, and get Agriculture to agree to it. Then we must lay out a program of wildlife development for our state, along the lines of this standard procedure. I want the thinking of every administrator present on the mechanics of having wildlife habitat established by wildlife people before I leave this meeting.

When those two things have been accomplished, we must follow up with an educational program, designed to put thousands of acres in wildlife habitat in each state.

These things can be done. If they are not done, posterity will charge us with having shirked our responsibilities as those who were charged with the stewardship of a valuable resource.

REFERENCES

- Public Law 540 - 84th Congress
- Chapter 327 - Second Session
- H. R. 10875
- Subtitle II, Conservation Reserve Program
- Federal Register, August 22, 1956
- Section 485.157 (d) (2) eligible practices
- Section 485.162 (b) practice cost-share
- Section 485.156 (c)(2)(3) contract period
- Section 485.157 (h) responsibility for technical phases of practices
- Section 485.151 (b) administration

Act. Section 117 - utilization of local and state committees
Section 118 - assignment for technical phases

International Association of Game, Fish and Conservation
Commissioners, September 1956

Resolution #1. Committee authorization

Federal Register, November 14, 1956, Amendment #1
Section 485.157 (h) (1) assignment of technical phases
Section 485.158 (b) cost-share G-2, G-3 practices

Federal Register, December 29, 1956, Amendment #2
Section 485.156 (c) (3) contract period.

RESOLUTIONS - Steen (Chairman), Bue, Palmer

Resolution No. 11 - The U. S. Fish and Wildlife Service said that the price of wetlands had gone up. Lands that were \$30 an acre are now \$100 an acre. Put wetlands into soil bank.

MR. BUE: We have been thinking of trying to get under these payments so it would save our wetlands for a while. Another reason is that land is being drained in our pothole regions for cornfields. It is a good enough reason to come under our conservation reserve program.

MR. MORGAN: I was at a meeting at the regional office about six weeks ago where the group that is working on drainage in three state areas was discussing their future programs and I brought the subject up and found that it met with the approval of the group. I can't help but feel that it is going to save a lot more wildlife production areas.

MR. KIMBALL: I am not too concerned either way. One thing is missing. Be it further resolved that we object to using federal funds. Resolution No. 11 amended as follows: BE IT FURTHER RESOLVED that we oppose the use of federal funds and services for the drainage of wetlands areas of value to wildlife.

MR. KIMBALL: Resolution No. 13. I happen to be a member of the International Executive Committee and this proposal has been discussed twice to my knowledge without action being taken. Meeting will be in September. I am wondering what sort of positions you are going to be in as we pass a resolution adopting anyone of these measures and the International adopts other resolutions.

MR. EVANS: The Western Association has already adopted resolutions. What chance do we have if various associations come in for different resolutions on this same thing. You are to show a united vote. Go on the basis of the International date last September. We want to get this thing passed.

MR. SCHRADER: I participated in this discussion and I don't know what chance any bill will have but I don't see where it makes any difference. Don't worry about what resolutions other organizations may adopt. Vote on whatever resolutions you have passed. First of all, I think it would be extremely unfortunate if this bill would be in favor of not raising the duck stamp. A \$1.00 increase is about as useless as our \$2.00 duck stamp, if you can't get more money than that.

MR. PALMER: Relative to voting on any act on this problem. When we realize that nearly 30% of the United States is represented here and Canada, I don't think there is any harm in expressing our views to the International. Perhaps our wishes will then be given more consideration.

Resolution No. 13 - motion made and carried.

NOMINATION - President - I. G. Bue
Vice-President - William Barnes
Sec.-Treasurer - Wilbur Boldt

MR. KIMBALL: I wish to thank our guests from the Fish and Wildlife Service, Forest Service, colleges and universities. Special thanks to Frank D. Blair and Chester S. Wilson. I also wish to thank Gordon Wollan, Jim Lee, and the recorders.

The meeting adjourned at 5:00 p.m.

RESOLUTIONS ADOPTED BY THE
ASSOCIATION OF MIDWEST FISH AND GAME COMMISSIONERS
TWENTY-FOURTH ANNUAL CONFERENCE
ITASCA STATE PARK, MINNESOTA
JULY 11, 1957

RESOLUTION NO. 1

(Operation Outdoors)

WHEREAS the U. S. Department of Agriculture, through the U. S. Forest Service, has developed a long-needed program identified as "Operation Outdoors," and

WHEREAS Part I of this program, concerning National Forests recreation aimed at solving the mounting problem of increased family outdoor activity, has been completed and is ready for implementation, and

WHEREAS Part II will deal with improvement and management of wildlife habitat on the National Forests in co-operation with the fish and game departments, and

WHEREAS both phases of these activities have long been needed and have been programmed in a most thorough and systematic manner,

NOW, THEREFORE, BE IT RESOLVED that the Association of Midwest Fish and Game Commissioners commends most highly the U. S. Department of Agriculture for preparing the analyses and resulting plans dealing with the extremely important recreational and wildlife values of the National Forests, and urges Congress to implement the program through appropriate financing.

RESOLUTION NO. 2

(Recreational Resources Review)

WHEREAS the Nation is faced with mushrooming populations, ever-expanding industry, more intensive utilization of all natural resources, each exacting an inexorable toll on the resources available for all types of public outdoor recreation, and

WHEREAS there is great need for making a comprehensive review of outdoor recreation resources and opportunities for the purpose of inventory and evaluation to determine the quantity and quality of these recreation resource opportunities which future generations will require and as a base for developing broad programs at all levels to meet these future needs, and

WHEREAS legislation embodying these objectives has been introduced in the Congress by a distinguished bi-partisan group of Senators and Representatives,

NOW, THEREFORE, BE IT RESOLVED that the Association of Midwest Fish and Game Commissioners endorses the principles and objectives of the Outdoor Recreation Resources Review (the Anderson-Aspinall bills, S. 846, H.R. 3592 et al) and urges enactment and implementation at an early date.

RESOLUTION NO. 3

(Public Ownership of Reservoir Sites and Surrounding Lands)

WHEREAS the policy of taking flowage easements rather than outright title to reservoir sites and surrounding shore lands, adopted in 1953 by the Corps of Engineers and the U. S. Bureau of Reclamation, has resulted in great loss to the general public of highly valuable and irreplaceable public-use benefits on federal impoundments.

WHEREAS under the prior policy such shore lands and access areas to these lands were quite generally acquired and usually licensed to the various state game departments, resulting in a high and permanent public use of these areas, and

WHEREAS the Chudoff Committee in Congress and other groups are in the process of conducting hearings for the purpose of evaluating these policies,

NOW, THEREFORE, BE IT RESOLVED that the Association of Midwest Fish and Game Commissioners does strongly urge that the present land acquisition policy be terminated in the general public interest, and that there be substituted for it the former policy of taking absolute and adequate title to reservoir sites and surrounding shore lands in order that their use may be permanently assured to the general public.

RESOLUTION NO. 4

(Soil Bank Act)

WHEREAS the Soil Bank Act of 1955, through its Conservation Reserve Program, has a great potential in the field of preservation and restoration of sorely needed habitat for fish and wildlife, and

WHEREAS the early experience on the part of the several state game departments with this program has led to frustration and an apparent lack of fulfillment of the purposes of the program, and

WHEREAS the federal regulations dealing with the Conservation Reserve Program appear to be partially responsible for the program not living up to its expectations

NOW, THEREFORE, BE IT RESOLVED by the Midwestern Association of State Fish and Game Commissioners that the Secretary of Agriculture modify existing regulations governing the Conservation Reserve Program of the Agricultural Act of 1956 as follows:

1. Provide that wildlife practices be entitled to 80 per cent federal cost-share based upon the average cost of establishing the practice as specified by the State Administrative Committee.
2. Provide that the contract period for establishing woody plantings under Practice G-1 be from 5 to 15 years and that the contract period for G-1 herbaceous practices be for a period of from 5 to 10 years as it is in respect to A-2 practices at the election of the landowner.

Provide that the respective game and fish departments be offered contracts under which such departments would be reimbursed for establishing wildlife habitat as provided by G-1, G-2 and G-3 of the regulations, and that they be reimbursed for such services, and

BE IT FURTHER RESOLVED that the Soil Bank Committee of this Association remain active in working with a like committee of the International Association of State Game, Fish, and Conservation Commissioners to procure the above-listed changes.

RESOLUTION NO. 5

(Amendments to Co-ordination Act)

WHEREAS the conservation and wise use of fresh-water resources on a multiple-use basis is essential to the future welfare of the American people, and

WHEREAS large sums of public money are being spent by state, federal, and private agencies for the development of water resources, and

WHEREAS construction agencies, both government and private, have been reluctant to consider ways and means to develop multiple use or even to mitigate losses to fish and wildlife resources, and

WHEREAS many water development projects can be planned and co-ordinated to benefit all the users of the resources, and

WHEREAS the amendments to the Co-ordination Act of 1946 (commonly called Public Law 732) as proposed by the Department of the Interior and endorsed by the forty-eight states, will provide mitigation and consideration of fish and wildlife values in all construction projects, and

WHEREAS it appears that there is an unnecessary delay in submitting these proposals to the Congress,

NOW, THEREFORE, BE IT RESOLVED by the Association of Midwest Fish and Game Commissioners that the Bureau of the Budget be requested to expedite approval of this proposed legislation and submit it to the Congress with a recommendation for early action.

RESOLUTION NO. 6

(Disposal of Radioactive Wastes)

WHEREAS the increasing use of radioactive materials has created a disposal problem which may in the future affect all marine resources and seaside communities, and

WHEREAS radioactive materials once disposed of into marine waters cannot be retrieved, and

(Resolution No. 6 continued)

WHEREAS ocean disposal of these materials has resulted in concern on the part of public officials and consumers as to the safeness of ocean products as human foods, and

WHEREAS this concern itself may result in irreparable damage to the fishing industry,

NOW, THEREFORE, BE IT RESOLVED that the Association of Midwest Fish and Game Commissioners Recommends to all public agencies concerned that radioactive wastes be disposed of in appropriate underground depositories.

RESOLUTION NO. 7

(Public Access for Recreational Use on and Around Reservoir Impoundments)

WHEREAS federal laws now provide that under certain conditions federal agencies administering our public lands are permitted to issue special use permits to private individuals for the construction of dams for the purpose of impounding water, and

WHEREAS it is recognized that said special use permits allow development of our agricultural lands and provide for the highest use of said land, and

WHEREAS public access for recreational purposes does not interfere with the primary purpose for which the special use permit was granted, and

WHEREAS said lands belong to all the public rather than a few individuals,

NOW, THEREFORE, BE IT RESOLVED by the Association of Midwest Fish and Game Commissioners that the Bureau of Land Management and other federal agencies authorized to issue said permits be requested to include, at the time of granting, a provision stipulating the right of public access for wildlife and recreational purposes.

RESOLUTION NO. 8

(Recognition of Water for Wildlife and Recreation as a Beneficial Use)

WHEREAS wildlife and recreation are recognized as one of the most important of the economic resources in our nation today, and

WHEREAS the recognition of water for these purposes as a beneficial use is essential in the maintenance and development of these resources, and

WHEREAS other economic developments are constantly encroaching on our natural stream flows and recreation opportunities, and

WHEREAS with an ever-increasing human population and demand for expanded recreational facilities,

NOW, THEREFORE, BE IT RESOLVED by the Association of Midwest Fish and Game Commissioners that each individual state legislature give serious consideration to the adoption of adequate state water laws to provide for the recognition of the beneficial use of water for wildlife and recreational purposes in order that all of our natural resources may be developed equally.

RESOLUTION NO. 9

(Pheasant Study Co-ordination)

WHEREAS pheasants are of major importance in almost every state represented in the Association of Midwest Fish and Game Commissioners, and

WHEREAS research is needed to provide answers to management to cope with land use changes, and

WHEREAS many states have special facilities to carry out research needed throughout the midwest states,

NOW, THEREFORE, BE IT RESOLVED that the Association of Midwest Fish and Game Commissioners for purposes of eliminating duplication, increasing efficiency, co-ordination and integration hereby adopts a pheasant management council (or technical advisory committee) consisting of one or more pheasant technicians from each state to prepare lists of needed research projects, list mutually adopted principles of pheasant research findings, agree on areas in which specialized research should be carried out and which state has the best facilities including technicians and training to carry out certain needed research projects and to carry out research assignments given to them by the Association, and further, in order to accomplish their assignments the technicians meet once a year at designated areas at which time they can exchange knowledge, appoint work committees and make reports and that such reports shall be annually made to the Association either at the annual meeting or by circularized reports.

RESOLUTION NO. 10

(National Wildlife Federation)

WHEREAS the present Soil Bank Program has a great potential for the conservation of wildlife in this area, and

WHEREAS a good advisor to work with the sportsmen's organizations, farmer groups, and members of this organization in carrying out liaison between these groups and the national levels would increase the participation in the Soil Bank Program and aid wildlife,

NOW, THEREFORE, this organization goes on record as encouraging the National Wildlife Federation to appoint a field representative in this region who will work directly with the sportsmen's organizations, farmer groups, and the Midwest Association of Fish and Game Commissioners in furthering the Soil Bank Program and other national legislation that will aid our wildlife resources.

RESOLUTION NO. 11

(Amendment to Agricultural Act of 1956)

RESOLVED that the Midwest Association of Game and Fish Commissioners go on record of favoring the amendment to the Agricultural Act of 1956 introduced by Senator Milton Young which will provide that wetlands be made eligible for conservation payments irrespective of past crop history.

BE IT FURTHER RESOLVED that the various representatives in attendance at this meeting contact their respective congressional delegations to support this amendment.

BE IT FURTHER RESOLVED that we oppose the use of federal funds and services for the drainage of wetlands areas of value to wildlife.

RESOLUTION NO. 12

(Harvest of Game on Federal Refuges)

WHEREAS the fish, upland game birds and big game animals now located on federal refuges belong to the states, and their proper management is the responsibility of the individual states, and

WHEREAS the establishment of refuges for the protection of one species prevents the harvest of other species for which such protection is not required, and

WHEREAS in most federal refuges harvests are needed in order to manage properly the fish and game resources thereon, and

WHEREAS it now appears that the U. S. Fish and Wildlife Service has given serious consideration to proper management of federal refuge areas, from the standpoint of allowable harvests in some areas, but has not made available many fish and game resources that should be public harvested,

NOW, THEREFORE, BE IT RESOLVED that the Association of Midwest Fish and Game Commissioners does hereby commend the U. S. Fish and Wildlife Service for its more realistic attitude with reference to proper management of these refuges, and

BE IT FURTHER RESOLVED that the Association of Midwest Fish and Game Commissioners does hereby urge the U. S. Fish and Wildlife Service to give further study, in co-operation with the States, to the full development of public harvest plans for their entire refuge system in order that fish and game which can be harvested will not be wasted.

RESOLUTION NO. 13

(Raising Duck Stamp from \$2.00 to \$3.00)

RESOLVED, that due to the urgent need for saving wetlands for waterfowl production, this association hereby goes on record in favor of raising the duck stamp from \$2.00 to \$3.00, with 50% of the total to be earmarked for wetlands acquisition.

RESOLUTION NO. 14

(Nutria)

WHEREAS, Nutria have become established and are increasing in certain areas in the southern part of this country,

WHEREAS, the damage to muskrat and waterfowl habitat has become serious in many of those areas,

WHEREAS, a number of small colonies, are known to exist farther north, resulting largely from escapes from fur breeding establishments or small releases,

WHEREAS, the relatively low price of skins, the difficulty of skinning the animals, and the low price of native beaver skins indicates little prospects of financial returns to justify the risk to native species, and habitat,

WE the association of Midwest Fish and Game Commissioners do hereby strongly recommend that,

- (1) Each state and governmental agency within its responsibility and authority restrict further importations of this species and,
- (2) exercise utmost effort to exterminate any existing colonies in the wild.
- (3) and take extreme precautions to prevent escapes from zoos or private breeding establishments where they are already established.

RESOLUTION NO. 15

(P. R. - D. J. Apportionment)

WHEREAS, following a discussion concerning proposed changes in the P. R. and D. J. allotments, be it hereby resolved that this organization go on record in favor of continuing the present methods of apportionment.

RESOLUTION NO. 16

(Commending Minnesota Conservation Department)

WHEREAS, the twenty-fourth annual conference of the Association of Midwest Fish and Game Commissioners, held at Itasca State Park, Minnesota, has been an outstanding success in the furtherance of the conservation ideals of the Midwestern United States and Canada, and

(Resolution No. 16 continued)

WHEREAS, the Minnesota Conservation Department has extended every effort to make this conference a success.

NOW, THEREFORE, BE IT RESOLVED that the Association of Midwest Fish and Game Commissioners does hereby thank Dr. George A. Selke, James W. Kimball and other personnel from the Minnesota Conservation Department for a most enjoyable and profitable conference.

All of these resolutions were passed unanimously by the Association of Midwest Fish, Game and Conservation Commissioners at their annual meeting on July 10 and 11, 1957, at Itasca State Park, Minnesota.