SEVENTH ANNUAL MEETING

OF THE

ASSOCIATION OF MIDWEST FISH & GAME COMMISSIONERS

HOTEL HANFORD
MASON CITY, IOWA
JUNE 17-18, 1940

P r o c e e d i n g s

of

SEVENTH ANNUAL MEETING OF THE ASSOCIATION OF MIDWEST FISH AND GAME COMMISSIONERS

Hotel Hanford
Mason City, Iowa
June 17-18, 1940

1939-1940

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S E V E N T H A N N U A L M E E T I N G

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The meeting was called to order by President M. L. Hutton.

Mr. Hutton: Members of the Association of Midwest Fish and Game Commissioners and guests. Before we get into the program I am going to dispense with Roll Call because you are all registered.

ADDRESS OF WELCOME

There are a few things I want to mention. Mr. William Mauthe of Wisconsin was invited to come to this meeting, but he wrote that he wouldn't be able to come. He is one of the original members of this organization. He says if there is anyone here that he knows that he wishes to convey his good wishes to them. He says, "I would like to be invited again, and I would like to be present at least once every two years." I have also invited various representatives of Federal Agencies, and more will be here later.

In addition to the printed program which you have, we have contemplated a little entertainment which you will help pay for. It is a banquet at Clear Lake, about ten miles west of here. It is being sponsored by the Commercial Club of Clear Lake and we are expecting to have as principal speaker, Mr. H. L. Shantz from Washington, D. C. We also expect to show some pictures in addition to that, and just prior to the banquet you can have a boat ride around Clear Lake. You will have to go right over there after the meeting in order to get your boat ride. Now, most of you know about the tickets for the banquet. How many additional ones that haven't tickets will want them now?

I am going to read what I have to say, in addition to this, in order to conserve time and say what I want.

During the seven years this Association has been in existence there has been a state of uncertainty. There have been vast changes in society--in relationship of nations--in matters of government--and in philosophies of life. Yet, we who live in the Midwest of America perhaps have been as little affected by these changes as any other region of the world. This is due to our geographical location, the natural resources available to us, the high type of our citizenry, and the high standard of living prevalent in this environment.

Even though we are thus situated, we are well aware that we have problems confronting us. We are well aware that "the preservation, restoration or creation of proper environment for man" by the use of our natural resources vital to life--viz.,land, water, air, and light--must be used in

accordance with nature's laws, or we pay the penalty.

We of this organization are aware that, while we have much to do with the administration of matters pertaining to fish and game, yet such matters are only one part of the general scheme of man's existence, and conservation in its broad aspects.

Because of our geographical situation, the states here represented have common problems of many kinds. Some of these problems are due to the fact that we operate under different state laws but in adjacent territories--others, that we have to deal with the same federal agencies--others, that we all have to combat natural phenomena of erosion, drouths, floods, fires, severe climatic changes and matters of that kind. Other common problems arise from human actions and temperaments; and still other problems arise from the machinery of government and the regulation of society, either local, state or federal, not to mention foreign and international complications that directly or indirectly affect all humanity.

Sometimes we may think we are living in a chaotic world. Perhaps the story of three men who were discussing their various professions or occupations indicates at least one reason for this.

One, a surgeon, said, "My profession is the oldest, because does not Holy Writ say that Eve was made from the rib of Adam? And who but a surgeon could have performed that operation?" "But," said another, a landscape architect, "the Bible also said that occurred in the Garden of Eden, and it required one of my profession to plan the Garden." The third, a politician, was silent for a moment, but quickly thinking said, "Did not the Bible say the world was made out of chaos? And who but a politician could create chaos?"

Many are beginning to believe this is true. In order to bring order out of chaos, the problem is to determine the factors, evaluate them, and determine on a program of action. Conferences such as this are part of the process.

While papers are to be presented and discussions led pertaining to the various topics by representatives of certain states, yet the most value will be attained if all enter heartily into the discussions. We have a rather full program, and it is quite possible that discussions will have to be limited according to the program schedule, so all remarks should be pertinent to the topic under discussion.

The first speech will be made by the Superintendent of Commercial Fishing in the State of Wisconsin, Mr. Gray.

EFFECT OF MISSISSIPPI RIVER DAMS ON WILDLIFE

Mr. Gray: Mr. Chairman, members of the Midwest Association. I am glad that Illinois is going to lead in the discussion of this subject.

I will only give a brief talk, inasmuch as I believe that Illinois

should be in a better position to know something about it. I think that Iowa was similarly affected by the lowering of the water level in the pools as was Wisconsin, and they undoubtedly can contribute a lot to this subject also.

As far as Wisconsin is concerned, the brief time that the dams have been in existence, led practically everyone in the state of Wisconsin to believe that these dams are going to result in the creation of a territory which none of us ever dreamed of twenty years ago. There are many varied opinions as to what is eventually going to happen in this particular area.

Some people believe that there will be a gradual increase of fish, game and vegetation over a period of years, which will be later followed by a decline due to silt deposits which occur in the entire Mississippi Valley during high water periods--wash from the farm lands adjoining the river. Many believe that eventually the river will go in to a decline as far as production of wild life is concerned. Others believe that the area will gradually improve and that the people in the middle west can look forward for many years to the Mississippi River area which is practically a lake now for a good many miles. They look forward to it as "nature's paradise." The only way that I can really look at the problem is from a practical standpoint, not from a scientific angle. The only way is to compare it with similar areas that are smaller and which have been in existence in Wisconsin for many years prior to the construction of these dams. In the Mississippi and at the present time those of you who, perhaps, are familiar with the lower part of the Wisconsin River know that during high water periods fish come out of the Mississippi River upstream as far as the dam at Sac City in Wisconsin.

When the water recedes the majority of the fish return to the Mississippi River. This occurred in the area between Wisconsin Dells where a dam has been in existence for many years, and when the dam was constructed at Sac City. There is an area between Wisconsin Dells and Sac City that compares favorably with a small Mississippi River area. Now, it is not to be construed in any way as good but it is similar. This particular area used to be just about the same as the area in the north part of the Wisconsin River--a seasonal run of fish and some fishing during the summer and a little during the winter. These were some of the fish that stayed in the holes, but nothing that you could say was a real lake or good fishing or hunting area.

Now the Lake Wisconsin area formed by the dam at Prairie du Sac has become a very good fishing area and if the water was properly controlled, would be a good duck hunting area. There are ducks that stop at this lake now, but, because of, well, I might say, the overnight lowering of the water and the overnight raising of the water, seriously interferes with aquatic life and vegetation.

There is, however, an enormous amount of fish between Sac City and Wisconsin Dells, consisting of all the fish that are native to the Mississippi River. This area was once a wooded section and the stumps, trees, etc., are still there, except those that have been removed to make seine hauls for rough fish. I believe there are more fish in here per acre than in any lake in the state of Wisconsin and that is taking in quite a little territory.

Now we found that the dam held these fish in this particular area and they no longer return to the Mississippi as they do in the lower part of the Wisconsin. I think that same thing can apply to the Mississippi River. We will find, occasionally, during the high-water period that there will be a migration of fish upstream, and in some instances probably downstream. There may be years that certain types of fish may drop downstream in large numbers and not come back. They may be in a lower pool and in other instances they may go farther north and remain in the northern section of the River for a considerable length of time.

Now this occurs in the Lake Wisconsin area to the extent that you can be sure that there are enormous amounts of fish 365 days of the year, and they do well even though there is an overnight lowering of the water, to the extent in some instances of three feet. All of you who are familiar with fish life know that this is not the best thing in the world for fish propagation. Now, we found that in the Lake Wisconsin area the amount of rough fish increased tremendously, and it was necessary to issue contracts to remove them and later go into this area with state crews to cut down the overabundance of carp, sheephead, and buffalo.

While not a large producer of rough fish like some of the inland lakes, there is enough rough fish in this area to seriously interfere with the fish propagation of the natural fishes. We find that continued seining operations has increased the quality of the game fishes as well as the number. It has also increased the quality of the rough fish taken out of Lake Wisconsin. It is much better as far as quality is concerned than it was back in 1933. Apparently at the present time there is a very good balance of rough fish and good fish. I believe that this old section of the Mississippi River will come to be a fishing and hunting "paradise" for many years if the water levels can be controlled and maintained. We can be sure of their maintaining a normal pool level for the major portion of the year.

Now, of course, there have been statements made at some of the hearings with reference to the lowering of the water back of these dams during winter months. We were told last year at Rock Island and I believe that some of you men here were at that meeting; we were told by the War Department that the conservationists should keep in mind that these dams were constructed for the purpose of navigation. But, that they would do everything that they could for the interest of the conservationists throughout the Middle West. I think that the time will eventually come when the people in the Middle West will demand a controlled water level 365 days of the year back of these pools.

I don't believe that there is any reason to think that these areas are going to become so infested with rough fish that they will crowd all the rest of the game fish out of the area, providing a certain amount of commercial fishing is carried on each year, whether it be by licensed fishermen or contractors. As you know, we are operating with large-mesh gill nets and are taking out the larger, marketable fish. The so called seine areas having been destroyed after the construction of the dams, it's going to be necessary that fishermen do the same as we did in each of the lakes that we fixed. We remove stumps, snags, that interfere with seines and develop new territory to take care of the rough fish problem.

The ducks, I believe, with the refuges now in force are going to

take care of themselves very well if the water levels, as I have mentioned several times, can be maintained somewhere as near normal. We find, in Wisconsin, that there is some talk of a change of flight of ducks. People in the eastern part of the state are sure that the original flight of ducks, that used to come down from Canada, through Green Bay and through the Winnebago waters is now coming down the Mississippi River because of the large concentration of ducks in this area during the last two falls. Whether or not there is anything to this, perhaps, other people who have been following this line of flight could give us some information during the course of the meeting.

I have noticed that in the Wisconsin area that many people are beginning to view the Wisconsin River from altogether a different angle than they did several years ago. I know of one man who spent a great portion of his time trying to get favorable legislation relative to the taking of fish for commercial use, which includes not only carp but buffalo, catfish, and others. He has now abandoned all commercial purposes and is now going to set up a so called resort, with the idea of attracting tourists there to fish and hunt in his particular section of country.

Now, that just shows the change of thought with reference to the area of these dams constructed. I think it is going to come to pass all along, a marked increase in hunters and fishermen to come to this area to enjoy hunting and fishing, and I believe all of you will agree, is one of the greatest wildlife areas in the United States at the present time.

I believe that is about all I have to offer and I will be glad to enter into the discussion. Mr. Chairman, there is a long program and I sometimes get kind of long winded on some of these talks.

Mr. O'Connell: What is the difference in the bottom conditions in Lake Wisconsin and the Mississippi River?

Captain Culler: As near as I can figure out they are both sandy areas, although Lake Wisconsin is much smaller than the Mississippi River area. Yet the bottom is similar. There is a sand and even a change in the bottom of Lake Wisconsin. It is similar to the Mississippi in many areas. There is also the silt deposit around adjoining farms.

Mr. O'Connell: Do you get the same degrees of silt in the Wisconsin River?

Mr. Culler: I don't believe it is nearly as much because of the type of country around Lake Wisconsin. It is high and doesn't wash as quickly. The Wisconsin between Sac City and the Mississippi River over Prairie du Chien is now just the same as it was twenty-five years ago. You will still have a sand bar here. The same occurred all the way up the Wisconsin. The construction of this dam created this big lake and the fish that are there stay there.

Question: Have you ever observed any fluctuation in the Mississippi over night?

Mr. Culler: Only in the Wisconsin River.

Mr. O'Connell: You spoke about using gill nets for the removal of course fish. Do you get any appreciable amount of game fish?

Mr. Gray: No, we don't get many. Occasionally we get a northern pike. They are operating now an eight-inch gill net. The law allows them to operate not less than a seven inch. That insures them of a good crop. Occasionally, they get a large pickerel or large carp; once in a while a catfish, but the amount that they do destory is no comparison to the amount of rough fish taken out if the gill net is properly operated and isn't allowed to be left in another day. There is not a great danger to game fish unless they are operated in an area during the spring of year when there is a large amount of pickerel or northern pike going in to a spawning place and those nets should be removed, but the general winter operations, as far as game fish and damage is concerned, is negligent.

Mr. Hutton: We will now have a discussion by Illinois. Mr. Hunt is in charge of fisheries in Illinois.

Mr. Hunt: I think that there has been a lot of unnecessary restrictions on commercial fishing on the Illinois River, where there has never been any stocking of commercial fish. That has produced more fish, more pounds of fish than any other body of water that I know of. We have this large area and I believe that areas should be turned over to the states for control and forget about the restrictions on hook and line fishing and it's a place where we can take fish from to stock various inland lakes that we have a number of that we didn't have five years ago and you cannot have the natural habitats for fish. Today they have to be treated with copper sulphate along the Mississippi River and different for the inland lakes of these areas for the people to enjoy.

Now the pool levels being furnished is based on a court order and will be ordered every year and we are getting a WPA project along the Mississippi in one particular territory to dig channels from the various pools when it is lowered in order that the fish may get back into the channel, and I think that is a very important thing to be done, in order to save the fish life. I believe that is about all I have to say.

Question: I'd like to hear what "Cap" Culler has to say about the Mississippi River and Wisconsin.

Mr. Culler: It is my honest opinion that the river will build up for a number of years and then start back, and that isn't any guess work. That is by using other projects as a criterion. Today the silt load in the river is thick. I don't really see how you can compare the Wisconsin River and the Mississippi because you have an entirely different condition on the Wisconsin. It is sandy on the Mississippi. It is filling in with silt and the history of all artificial reservoirs is that they build up every few

years and go back and eventually have crappie and maybe a few catfish. I will say this. The northern pike have certainly come to the front in these pools and the fish below these pools and the fish below these dams has been simply wonderful. There was a great amount of loss of fish on the river last year, due to these fluctuations in Wisconsin, Minnesota, and Iowa; right opposite Guttenberg, Iowa in Swift's Slough there was a loss of 3 million fish and in many of the areas we got reports all up and down. You see in the shallower places we have there is not over two feet of water. Well, last year there was no snow and we had an exceptional ice on these pools, and as a consequence, they were completely encircled and froze to the bottom and the loss was immense. We got those reports.

Question: But, in the main part of the river, did the pool levels stay fairly normal during the winter?

Mr. Culler: Pool Nine was pooled two feet. It only takes two feet. Between 60 per cent and 70 per cent of the pools are less than two feet in depth. We can work for some uniform water level with the Government this spring. They are fluctuating a foot or two for the last weeks.

If you lower a pool two feet, you are destroying the feeding of the bass, crappie, and sunfish; so, I believe we should take it to the Federal Government.

Question: Do you believe that, eventually, the river will fill up back of the wings the same as back of the original new dam? Do you think that the time estimate, the number of years this fill will take many?

Mr. Culler: Your guess is as good as mine. From Madison he says the Boulder Dam is fifty years. I say less than forty-five years. It may vary, depending on the degree that they can put it. But, you take any of these reclamation projects and they are all filling up--along the Platte River they filled, I forget how many feet. We stocked one at sixty feet and now it has got about fourteen feet.

My picture of the whole thing is very dark. It is going to be a good place for ducks for a while, too, but I don't know after a while.

Mr. Swift: Mr. Chairman, would a motion or resolution from this organization to the War Department, requesting them to give us further cooperation with reference to the water levels, do any good? Would it be in order?

Mr. Hutton: I would be glad to entertain such an order. We will have to refer it to the resolution committee.

Dr. Strunk: I think when you resolute, and as I know in the past years, they don't get very far. I would suggest that a committee be appointed to work actively with the War Department on that matter rather than do a lot of resoluting. When we get the act of a committee I think we will really get further.

Mr. Hutton: I would like to have Mr. Schwob give a discussion on this topic due to the aggitation that occurred along the Mississippi River in Iowa.

Mr. Schwob: There is only one thing that I would like to say, whether it would be beneficial or detrimental is the amount of silt deposit now. If you get enough silt deposit to get your vegetation killed out, you are going to have the same condition--is that the way you fellows feel about it? We have got that now in areas that are very productive.

No matter what it is you get, ask for a good production of animal life, no matter where you get it.

Mr. Albert: Well, when you speak of your stabilized water levels and pool levels I think what we consider them are two different things. I think we are apt to consider as that pool lying between two dams. That portion or area between two dams where the current stops and lake conditions prevail at their fixed levels, wherever that happens to be. Well, that particular level may not be maintained throughout the pool, but may be a few weeks in the year. You may have an enormous fluctuation in the areas between the dams.

My experience is with Pools No. 9 and 14. There you have fluctuations in the upper part, where I have my office, of only an inch or two taken from the records of the control point which show very little in the upper one-half of the pool. In that upper one-half of the pool conditions have become so changed there in the last few years that the ducks have concentrated there.

Question: Is that due to the silt deposit?

Mr. Albert: I blame it to the fluctuation of the water level.

Mr. Bode: I'd like to ask Bob Gray what effect your drag seining has on your vegetation in that lake.

Mr. Gray: My experience with the commercial fishing activity in Lake Wisconsin goes back to about '32 and '33. I was familiar with Lake Wisconsin just as a hunter and fisherman. There was not much vegetation in this area during the years of '32, '33, and '34. We established a camp on Lake Wisconsin in 1936. You can go to Lake Wisconsin now and find vegetation in a major portion of the lake. Now we contribute that to the reduction of carp. It is apparent that they were the only carp in this particular area, as far as rough fish were concerned, and we removed a good many millions of pounds from this area.

We find carp in good condition, fat and doing well, whereas when we started to fish they were skinny and poor--apparently had no feed. Now the increase of game fish has also been very noticeable with the reduction of carp. There are carp there and always will be, but they are under control.

Mr. Bode: About what time of the year do you do your seining?

Mr. Gray: We seine in Lake Wisconsin in the spring. The lake is such that in the fall of year the fish go into wooded or stumpy areas and stay there. We take some of them out there in the winter with hoop nets--sometimes in March or April. We are now just about through.

Question: Do you do drag seining during your spawning time?

Mr. Gray: You drop a net around them and we find that the drag seine, even though it does break off vegetation early in the spring, that it comes on and is thicker where we have operated our seine than it is in areas otherwise. Apparently vegetation works something like alfalfa. It stools out. We find in other areas where we operate in the spring before the vegetation gets up that along those areas is where vegetation is really thick.

Mr. Hutton: Would you have any objection to seining in the fall if you could get it done?

Mr. Gray: No, we'd be glad to; only we can't get them in the fall. We occasionally get a haul of fish, but it's not large. In other areas we do a lot of fishing in the fall. We like to do it then because we only have to keep them in the winter and do not have to keep them through the summer months. But, we find, as I say, the marked increase of game fish with the reduction of carp and it is very noticable. I think that you will see with the large amount of game fish that we have in the Mississippi River, that they will also help to control the fish. I think it is a matter of control and not of extermination. I don't think anyone entertains that idea. If you can control the carp that is certainly the best, and the game fish will help do it.

I think that the control of carp on the Mississippi River is the most important part of the program, but I think your most important part is your water levels. I think that, probably, the erosion program comes first and your water levels, second; and the control of your rough fish third, because you have got such a vast area. They will go up for two years and will all of a sudden come down and they will take over for a certain year; but, this area is not like our inland lakes. It's a type entirely different in the setup; although it is similar to our Lake Wisconsin area.

Mr. Aitkin: Bob, in Wisconsin, in the past five years that you have been operating, what is the population in the order of carp, buffalo, quillback.

Mr. Gray: I know what you are getting at. You are wondering what certain type of rough fish predominates for a certain number of years, and I think the Mississippi River is towards buffalo; but, that is undoubtedly due to some trick of nature wherein those fish come up and you see them and buffalo will starve out if they are in a confined area.

In Wisconsin, carp are predominant at the present time, although we are finding a large population of sheephead.

Question: Are they increasing?

Mr. Gray: Yes.

Mr. Hutton: Well, if there are no more questions right now, I'd like to have those that are here show their hands indicating that we should have the matter referred in regard to water levels to a resolutions committee. Then I will ask for a show of hands on an appointment of a committee to wait on the War Department.

First, those who think that a resolution should be adopted, hold their hands up. There is none.

Now, those that think we ought to have a committee appointed. That is carried. There will have to be a committee appointed by the incoming president, I suppose.

I passed up the first item of Roll Call and because more of you are here now, I would like to have each of you stand and give your name and title of the office that you represent. I think most of you know each other. Suppose we start here in the front row.

W. W. Aitkin---------Iowa Conservation Commission
K. M. Krezek---------Des Moines, Iowa
V. W. Flickinger----Chief, Division Land and Water
R. W. Barsalou-------Fish and Game, Des Moines, Iowa
J. Z. Stevens--------Clear Lake, Fish and Game
Ray Butler----------Clear Lake, Fish and Game
E. H. Juntunen-------U. S. Forest Service, Des Moines
R. M. McKay---------Orient, South Dakota, Fish and Game
Carl S. Pattee-------Britten, S. Dak. Fish and Game
J. B. Douglas--------Tecumseh, Nebraska
Asbury Roberts-------Jefferson City, Missouri
F. T. Schwob---------Des Moines, Iowa
H. W. MacKenzie------Madison, Wisconsin
Ernest Swift---------Madison, Wisconsin
Robert A. Gray-------Madison, Wisconsin
F. D. Hunt----------Sterling, Illinois
E. B. Speaker--------Des Moines, Iowa
W. E. Albert---------Lansing
Frank O'Connell------Lincoln, Nebraska
C. F. Culler---------La Crosse, Wisconsin
J. W. Cluett---------Pierre, South Dakota
Thomas J. Lynch------Springfield, Illinois
Lewis E. Martin------Springfield, Illinois
Anton J. Tomasek-----Springfield, Illinois
George Killinger----Burlington, Iowa
I. T. Bode----------Jefferson City, Missouri
W. F. Grimmer--------Madison, Wisconsin
K. M. Rooker---------Davenport, Iowa
R. E. Stewart--------Ottumwa, Iowa
G. R. Spencer--------Nebraska
Volney Warner--------Woonsocket, South Dakota

Lloyd Smith----------Des Moines, Iowa
Mrs. Addison Parker--Des Moines, Iowa
Verne H. Peterson----Clear Lake, Iowa
Guy D. Josserand-----Pratt, Kansas
W. L. Strunk---------St. Paul, Minnesota
L. E. Fierco---------St. Paul, Minnesota
R. B. Wheeler--------Des Moines, Iowa
Lloyd R. Smith-------St. Paul, Minnesota
Gordon Fredine-------St. Paul, Minnesota
Mandt Towrson--------St. Paul, Minnesota
J. D. Lowe----------Algona, Iowa
E. V. Pierce---------Algona, Iowa
George Hendrickson---Ames, Iowa
Ellis A. Hicks-------Ames, Iowa
W. A. Bents----------Cresco, Iowa
Thomas J. Scott------Ames, Iowa

This meeting seems to be running according to schedule. We may be five minutes ahead of time right now.

The next thing to be discussed is "Flood Control Reservoirs" which is to be presented by Mr. I. T. Bode, Director of the Conservation Department of Missouri. I am quite sure he must have quite a lot to say.

Mr. Bode.

Mr. Bode: Mr. Hutton and friends. I wonder, sometimes, whether I ought to have anything to say about this or whether I ought to keep my mouth shut, for the mere fact that even the few remarks that I have made about "Flood Control Reservoirs" have been so terribly misquoted and misconstrued that by the time they got back nobody could recognize them.

I want to say in the beginning what Captain Culler said about some of these things. We don't keep clear in our own mind the classification of waters that we are talking about. I don't think that you can consider the conditions all the same. For example, in an artificial-built lake, where the fishermen can come in and put that lake under sustained-yield management if you want to and where he can exercise his right as to the fish populations This places it in the same category that you can the larger bodies of water, especially where streams have been dammed up. So, I think we have got two different classifications to start with. I also think that we have enough history so that we cannot only conclude that we know about what is going to happen to those, but we are getting almost to the point where we can apply the theory of cycles and tell almost about how many years it's going to take when those folks are going to have the finest fishing and just about at what point that is going to be and when it is going to go down.

Now with regard to this matter of "Flood Control Reservoirs". We have had and are having some decided experiences with regard to those in our state and that is largely in the southern half of the state. If we were having the same experiences in the northern half of the state, my story would be entirely different. Again going back to my statement that we must classify these things and we can't enter into an intelligent answer unless we know the

conditions we are talking about. As you know the water in the southern part of Missouri is different from the water in the northern part. In the northern part it is very muddy, not very highly productive in fish life. The southern streams are largely spring fed, muddy during the flood periods, but the flood period is very short and the rest of the time is very clear.

Now I don't know, but my opinion is that from the standpoint of total control of volume, the volume of control exercised by our southern streams or by control our streams are a rather small part to what it would be by exercising control of the northern streams. However, the expense of reversing that process would be prohibitive. I don't know, I am pretty sure that in the southern part of Missouri the engineer's help has been for the building of dams and impounding of water and maybe that is a background, I don't know.

I constantly ask myself a question--"What do we know about flood control reservoirs?" I think some of our discussions are evidence of that. We probably can't dispute it very firmly up to the present time--those agencies that have prepared reports and have made our present proposals for reservoirs and flood control. We can't dispute the fact that their calculations on the amount of control that will be exercised in the lower Mississippi and our lower waters is rather accurately measured and that when they put in a dam and impound a certain amount of water behind it they know about how much control they are going to effect in the lower river. In other words, from that standpoint, they have their data rather carefully worked out.

I think we know something about the method of procuring our present flood control plan. I don't intend to enter into any political discussion of any kind, but we have got to face facts and let me say right here, that my whole discussion is from the standpoint of our own state. If the other states have had other experiences than I have presented in my discussion, we certainly will welcome corrections or guidance. But, our experiences up to the present time is that we have very little to say about it and the first that we know of the distinct progress or definite construction of any of these reservoirs is after the bill has been started through congress for an appropriation. Then a hearing is open for the public and what they might have to say about it. Well, what has happened in the meantime? If a public agency or anyone else should happen to voice opposition to one of these reservoirs, well the local chambers and the local industry, and the local people have already been so thoroughly sold on the industrial and economic end that one finds himself in the position of distinct opposition to his own people.

Now, I think we know also, and this may be the most important point for us to consider. The most of the state agencies, I shouldn't say most of them, perhaps I should say that I know a number of state agencies have been completely floored when their bluff has been called. We have emphasized too much the recreational part of it rather than the value to fish life. We have talked about the value or amount of taxes taken away from the local governments and to illustrate, I mean by that we have some counties where the proposed reservoirs will flood practically

all of the land in that county, which is now paying taxes. What is going to happen to those counties I do not know. If we get into a discussion there are facts, figures, and data presented on the other side, and we find ourselves talking in terms of generalities and results. We usually sit down and are rather docile. In one instance, I remember distinctly, we were told that the Bureau of Fisheries had made a certain statement about the beneficial effects of one of these reservoirs and then again we were told that the Bureau of Fisheries had made just an opposite statement. That was very vast difference but it is the fact.

What did they say? How can we find out what they said? In other words, the point I am trying to make right there is this: I wonder if one of our first big jobs in solving isn't a rather large research job. Take the matter of the Bureau economy, I have always argued that we don't know the pure economics of this flood control program. We do know what land value may be saved on the lower Mississippi River but it has been measured in one group of terms only, and the other side of the ledger has never been balanced in anything that can be considered complete and accurate in the value of dollars--boating, swimming and other things. In the case of some of our reservoirs, entire towns and cities have been moved and the telephone lines and schools also. I wonder if we had that balanced together with the amount of money and the cost of establishing this flood control whether we might not get a pretty different picture as to the pure dollar and cents value to the nation as a whole. But there hasn't been any economist who has studied that side of it. I think we have got one big job ahead of us.

We believe other forms of modification for flood control are just as good and would exercise the same amount of control, but we haven't the specific data to say for sure. An example of what I mean--in some of our Rivers of southern Missouri I can't be convinced of anything else. Even though it might cost us all a little more money to do it instead of damming up an entire river with one, two, or as many as five large dams which could change the entire character of the river from the source to the mouth. We would welcome more water in the upper reaches to maintain the character of our principal streams. I think we need some engineering example. Another thing I think at least we are doing in our state and that is leaving out of the picture the possibility of the changing of our fish population. It may be that some of the original damages that we have pictured with regard to these reservoirs are not as acute as that. If we would have an engineer studying some of our states in regard to our water flow and fluctuation of water levels, we would know more about it. I think just a few of them will give you an example of what I mean. (Shows charts) They are calculated on the baseline of the minimum conservation pool. That is the minimum to which that pool will be drawn down. All of the coloring above shows the fluctuation beyond the minimum level.

Flood measurements that have been made in that stream you can see that here is in the year 1933 where, with the exception of one period, coming in April here, in May here, and for a duration of from 10 to 15 days there is not a very major fluctuation in that range level at all.

Now, as you will see a good deal the same thing here on this chart which is on a good deal the same basis, which shows a less fluctuation over shorter

period of time. Well, what do I mean to say by that? There now is a bare possibility that we might get together with the engineer and with some additional control be able to minimize this fluctuation and the minimum pool level. Well, we must take those things into consideration. You folks will take the attitude that I am approaching or trying to approach it from all angles. I don't want to argue one way or the other.

Our Commission has taken this viewpoint: that we are not opposed to Flood Control as such and, in conclusion, I will give you some of our other conclusions with regard to our standpoint on these Flood Reservoirs. The standpoint from which it is considered will depend in whole on the circumstances at hand and we are beginning to believe there are more and more. We can say that we are in favor of it or that we are opposed because with what we have done we find that each individual project being applied with a blanket conclusion is absolutely unfair.

I might say that our problem is simply one for our state. There are thirty-three flood control reservoirs proposed for the southern half of Missouri and if they get it completed, the Current River, the White River, Black River, Jack's Fork, North Fork, and St. Francis will be one series of impoundings from the southern part to the north. I don't know, but I think it runs a little better than a thousand miles of excellent small-mouthed bass water. That, in my opinion, will be practically wiped out if this Flood Control Program goes on. Now, I don't think that will wipe out fishing in that part of the state, but I don't think the fish will go from these streams to these impounded pools. So, I think that the first thing that we must consider is each one of these projects, probably as an individual project instead of just coming out with a blanket condemnation as is proposed.

Next, I believe firmly that we are rushing Flood Control at the wrong end. We are "rushing" and I mean that collectively as to the nation as a whole, not to you and I as Conservation Administrators. We are pushing one type of control before we know enough about the other possibilities to have reached a very intelligent conclusion. I think some of the remarks I have made earlier will help you know what I mean by that. Therefore I think that one of the major duties should be the appropriation of several millions of dollars for some broad-minded research work on the economics of Flood Control.

We have started along this line and if the present proposals are wrong we are going to have to go to the source to change them and that is for educating our people to all angles and all of the situations involved, and I think that is going to have to include those who make our laws and who pass upon our appropriations. I think that is a public policy. I think that is the kind of congressmen and legislatures that we want--men that will give a clear, broad-minded, intelligent presentation of all angles of this thing and then they could reach an unbiased conclusion. But there isn't much sense in our sitting and hollering our heads off after the thing is all established, where there is nothing you can do about it.

We believe that the state should have something to say about where

these reservoirs go--how many of them are built--something about the way they are going to be controlled. If I understand it correctly the state doesn't have much to say about that at the present time. We believe, also, that we are not asking for too much, even if it takes some additional expenditure of money after the decision has been reached because it is really for the welfare of the most people. We are not asking for too much that enough additional help be provided to safeguard these reservoirs against some of the damages that have occurred in reservoirs where no control has been provided. I mean such things as passage of fish beyond those dams.

If passage of fish beyond those dams is impossible, is it too much to ask that the Federal Government keep that lake stocked? Is it too much to ask that, where conditions permit, to avoid fluctuations that we can maintain a certain quantity of stabilized water level for fish production? I don't believe that it is unreasonable to ask for that. I believe that we are going to make the most progress if we do not blindly give absolute condemnation of all Flood Control Reservoirs. But, if we assume the attitude to discuss these things intelligently with those in whose keeping Flood Control has been placed, then as a final suggestion I want to leave this and I hope it won't interfere with the act that has been taken and it's probably a step in addition.

I wonder what the result of a general conference in this midwest part of the country would be? A conference which would draw into it not only the plans of the people but representatives of those groups who are most intensely interested; such as Chambers of Commerce, etc., and including our congressmen, not for the purpose of arguing this program but for the purpose of getting a clear presentation of all the problems involved so that when these matters are placed before the representatives who have to pass on them they will know that there is thinking in both directions and they will not have been absolutely convinced of one angle or the other beforehand.

With those remarks I am going to leave the discussion in your hands, Mr. Chairman.

Mr. Hutton: The Government expected to spend six million dollars on a Flood Control Reservoir in the Iowa River and they had all their plans made and about ready to start the work before we knew just what they intended to do. When it came to the notice of the Conservation Commission they went on record against it for several reasons, taking into consideration the conservation angle as well as protection to the land below the projects.

There was later a public hearing held at Iowa City, at the request of the Governor on February 14. There were attorneys representing the "pros" and "cons" relative to the project. Now this project involved the construction of the dam a few miles north of Iowa City and below Lake MacBride State Park, which is immediately on the banks of the Iowa River.

According to Colonel Gross's testimony and explanation of the plan the Flood Control Reservoirs would provide submerging of 28 hundred acres, including the river and he also pointed out that at various stages it would enter into Lake MacBride State Park.

Now, this hearing involved 200 pages of transcript and an all-day session. There was matter about the affect on State University property below the dam, affect on fish and aquatic life, on trees and vegetation, on recreation, on county bridges and highways, both above and below; the schools, churches, such as Mr. Bode mentioned. We had technicians from the State University to testify relative to the various affects according to the qualifications they had to testify. However, our attorney in Iowa told us that even if we didn't want the project the Government still could go ahead.

Now, there were other Flood Control projects proposed in Iowa. One at Central City, one at Howell, etc. On the first one at Coralville,. they were actually about ready to start work. They had several hundred thousand dollars available and they can start and condemn land.

I think that Mr. Bode is right. That we can't be against Flood Control as a whole but that each project ought to have individual attention. I like the suggestion of having a general conference of all the states interested and with all the cross section of the population represented in such a conference. It is true, as he pointed out, that when the Government expends some millions of dollars a lot of people want it spent, because it does give employment and brings revenue to that community, which I think, with Mr. Bode, we haven't evaluated. No one could say exactly what would be the effect on trees submerged. They have ideas but no proof and I think that is one thing that ought to be worked out. I want more people to offer something and discuss this subject and I'd be glad to hear from others.

I don't know how many states have Flood Control.

Mr. Lynch: Flood Control is under the Division of Waterways but last year we had a very high kill of fish on the Mississippi. Naturally, the conservation department was given the blame for it and I suppose some of the states may get it later. There were printed articles and pictures of these fish that were dying, blamed to conservation. When in reality we went to the War Department and asked them to maintain those levels.

Now, from what I heard from Bode it seems to me the only way that Midwestern States are going to get any place is by some sort of a meeting and impressing upon the congressmen, that while we are not against any Flood Control created, the Administrators feel that they should be consulted before any plans or any hearings are completed in order that they may come in and give their views as to what the ultimate is going to be in the matter of conservation in the various states. If I understand correctly, they can come right into our state and just pay what they please.

Now, I doubt if the senators who make these appropriations know just the way this money is handled, and I agree that a hearing should be held in each state and then a hearing should be held in some central state. I think that the states affected should start some program of education among the people to inform their representatives in

Washington the same as you would anything else and see if the states would not be consulted. That they would advise the State Director as to what they actually propose to do within that state.

Mr. Bode: Mr. Chairman, I think many of us have been to these hearings. We are practically ignorant of what is going on. I attended one or two. It certainly was amazing the amount of information that they had and we had nothing. It is apparent that they had a corps of men working on the project. So naturally we were beaten down. Wouldn't it be proper for this organization to work with the various other agencies. Isn't that a job they should perform. They could work directly with the War Department. I wonder if we couldn't do that.

But the fact remains, that at the time of the hearings, both sides of the case can be presented and I think before this group adjourns some definite action should be taken along those lines if we are to speak, because if we don't do that we just make fools out of ourselves at these hearings.

Mr. Hutton: Isn't there a Federal requirement that there shall be coordination. In other words, in the case of a Flood Control project, wouldn't the United States Biological Survey or the Bureau of Fisheries ordinarily be consulted.

Mr. Culler: I don't think so, because I know that several instances that the War Department has made requests of some of our men to give a report on the Fisheries viewpoint. I didn't know that there was any coordinating agencies.

Mr. Bode: This might throw some light on the matter. There is a requirement for coordination in wildlife activity between the National Park Service, Soil Conservation, and some of those others, but it doesn't run into Fisheries.

It was established before this consolidation was made; unless I am mistaken this legislation carries with it no obligation for coordination. The Army Engineers are kind of a free hand in that respect.

Remark: Five years ago when they got out a report on the Upper Mississippi of the effect of channelization on migratory waterfowl, the Biological Survey made a report which was favorable to the War Department.

Dr. Strunk: Well, we must keep in mind that we have constantly leveled a lot of criticism at the Army Engineers for the reports that they have turned in; but, let's not forget that they have been assigned things with the report on what could be done in the way of Flood Control, of the flood conditions and that is what they did. Now we can't kick them in the "pants" too hard. Now in regard to the Biological Survey and the report they made on the wintering of waterfowl and they undoubtedly rendered that report from that standpoint, and you can't condemn them for that.

Iowa: Well, I happen to recall that the Water Resource Committee of the

Natural Resource Board made certain recommendations in the River basin studies and in Iowa they didn't consider Flood Control Reservoirs an essential thing. Now, I don't know just what function that Committee has unless only to make recommendations.

Remark: As far as any recommendation or report which they may make that is no control.

Mr. O'Connell: Well, in a minor way that hasn't particularly been a problem but it seems to me that the whole problem of this matter is an outgrowth of the porkbarrel system that we had on Rivers and Harbors for congress wanted to spend and nobody else could do it as well.

I think the time is here that our War Department ought to be spending most of their energies with some organization that will deal with the conservation problem. Then we could coordinate these things much better than we can in dealing with the War Department. That would be a matter of congress but it seems to me that we are never going to get this thing solved, which is pretty completely remote from the conservation agencies of the Federal Government.

Mr. Hutton: It seems to me that one state alone can't get far because the problem doesn't stop at state lines, but it goes past the state lines and if something could be worked out whereby this association could get a meeting called along the lines Mr. Bode suggests, I think that might give everybody a chance.

Mr. Bode: Along that line, I wonder if the proper thing, instead of having a meeting or this meeting to try to conclude whether a conference of that kind should be called, why not let it be left up for this Committee to work on.

Mr. Hutton: You mean the Committee that works on the Mississippi River Dams?

Mr. Bode: Yes, broaden the function of that Committee. I move to have a Committee reappointed to expand its jurisdiction.

Minnesota: I second that motion.

Mr. Hutton: It's been moved and seconded that a Committee be appointed to make a study of the Mississippi River Dams and Flood Control Reservoirs.

Motion Carried.

Mr. Douglas: It seems to me from the discussion and from the knowledge of the general need of the public, the American public, for flood control and the fact that we must acknowledge flood control as much as conservation. Flood control must come first in our state. We have three problems, not only flood control but we have power and irrigation, which means vastly more to us even than the

conservation of our wildlife.

So our policy is not one of criticism of Flood Control. We ought to consider the method of tying our own problems into the national situation.

Mr. Hutton: Well, it should be considered "the greatest good to the greatest number". I think Mr. Bode is right in saying it is something the nation wants and is going to have and it should be our main aim and determination to get the facts.

Mr. Lynch: Well, I think the states realize this, but they could at least call the states and ask them what suggestions they have. All we get now from the Federal Government is a mimeographed copy and by that time it's all determined.

Mr. Bode: That goes back again to the one point I tried to make clear. I am not opposed to Mr. Douglas and what he mentioned, but it is the practice up to the present time that one group has had its viewpoint given and that group has done all of the determining. There should be an equivalent amount of research whether they are right or wrong. We have assumed that it is right and that it is the "greatest good to the greatest number".

There is a question in my mind and this is a question in all our minds and that is; before either viewpoint reaches a decision, the nation as a whole through a national agency should make an intelligent study of it.

Mr. Swift: I think Conservation starts with land use, and the "greatest good to the greatest number." Maybe they think it but there is no certainty that it is. If you are going to have fish and game that comes with proper land use.

Remark: Isn't a suggestion, that some attempt be made to tie this work in with the conservation agencies of the United States one worthy of consideration? As he mentions here, the War Department has taken over all of the building of these projects and without consulting the conservation agencies of the United States, it seems to me that there could be a unity if these members and the members of congress could get together and we could present to them a program and agree on it. That undoubtedly would have considerable weight in future legislation. This, in my opinion would automatically bring us into the picture.

Mr. Hutton: I would think that this Committee could make an interim report. That could be sent by letter to all the member states.

I would think this Committee should take your idea into consideration. Is there any comment on this?

Mr. Bode: I think they should and a certain amount of money to study this. After all we can't go into this unless we have basic ideas to present to them.

Mr. Hutton: Of course there are some states that have State Planning Board I would like to know how many states have State Planning Board

Mr. MacKenzie: I suggest you ask that in two ways. One, whether the planning board is used as an administrative authority or used merely as a suggestive agency.

Mr. Hutton: How many of them have administrative jurisdiction?

Answer: One.

Mr. Hutton: How many simply advisory?

Answer: Three.

Mr. Hutton: What about Natural History Surveys?

Mr. MacKenzie: They are just set up to study research and its values.

Mr. Hutton: Does Wisconsin have any flood control projects?

Mr. MacKenzie: Well, we have private agencies that are endeavoring to get control of some of our Rivers for the use of power. They are going to use it for the making of electricity. Unfortunately, in the past the legislature has allowed them to do anything they desire to do, in the way of building dams. In later years we have had better control in the way of reservoirs. They can pull the water down to the thread of the stream.

We have, as a conservation commission, entered into this picture of combating these different private constructions of these dams and have continued to do so, wherein they are destructive to public purposes.

I believe our purposes have met results in many of the places and we have been responsible for stopping some of these dams that were really harmful.

I might just point to one area and that is one of the most beautiful rivers in the world and that goes through the whole state--with its many waterfalls and rapids, wonderful trout streams and the army engineers that at one time was all up and down that river. But the tremendous protests that have occurred throughout our state, I think, was so far effective and they have given up the proposition in the northern or upper region of this river.

I do think, however, that why should we continue to make lakes out of all of our beautiful streams? Of course, our state is a little different than your states further south, but I do believe that we have plenty of lakes at the present time. We should not destroy that which nature gave us. I think there is a whole lot of study that should be given to this problem.

Mr. Hutton: Mr. Cluett, do you have this problem?

Mr. Cluett: Well, our problem is quite a little bit different. We

are out there where we don't get much rainfall. We want all the water possible to come in our state and to stay there and not go down south and drown out Mr. Bode and some of his neighbors in the southern part. Our state is working to secure a dam across the Missouri River. I can readily see though, that should that be accomplished it is going to destroy the best goose hunting area in the United States for this reason: That it's going to cover up all of those sand bars where our geese are now protected on the Missouri River. This angle has never been brought up in all of our discussions. We are trying to get Congress to help us on our water supply. If the State of South Dakota can talk the Government in to putting in the dam I don't think our Conservation Department is going to fight it. We have, perhaps, more dams than any one state. Most of them are on our streams and as we are going to continue to ask for more we are besieged with all the towns along the Sioux River which runs down the eastern part of that state to construct and preserve and maintain the water level.

Of course, as far as we are concerned, our problem is from your men down here where you have a lot of rainfall and we are going to conserve all of it.

Mr. Bode: But, I am so anxious that the thoughts I present be not misinterpreted, and I want to emphasize the one principle I tried to make clear. That is that our approach to this thing should not be one of the building of them but should be entirely an approach of all angles. But I don't want that to be misunderstood and I want to leave that just as clear as I can that this is an attempt at a more intelligent viewpoint as to what is best in the different cases, instead of a blanket program of one method of approach.

Mr. Hutton: Mr. Josserand, have you any remarks?

Mr. Josserand: I am just interested very much.

CROW CONTROL

Mr. Lynch: In bringing this Crow Control program in Illinois to this meeting, I do it simply because I believe in a good many states, not particularly in the Middlewest, but in other states of the Union the program is misunderstood.

Some months ago one of the National magazines printed an article and some pictures in Illinois and naturally from all over the United States we have received comments telling us that we were brutal in killing birds. We have also received letters requesting information to tell them just how this program worked, what we used, the methods used, etc.

Now, in order to present that paper intelligently I brought along some of the material and because our time is short I have copies mimeographed as to how these bombs are made. Anyone interested can look at them.

Illinois expects to continue its Crow Control. We are a large agricul-

ture state; we are a flat prairie state and it is a problem that we must continually face in order to protect our other game species. But the method we are going to do it is not a method of extermination but of keeping them under control, which so far we have been very successful in doing.

Any efforts in game bird protection or propagation must be accompanied by a well-organized, but sane, program for the control of predatory life. Modern farming has reduced natural cover-protection to such an extent that the handicap in the struggle of our game birds for existence is too great for them to carry on alone, and they must have aid in order to survive. This aid should be a combination of the recreation of the proper habitat and environment and the control of such conditions as may then adversely affect game life.

I want to say now that it is not the policy of the Illinois Department to exterminate any species but to undertake a program of control which may be expected to bring back a more desirable balance in the wild life of our State.

Any program for the control of the various predators of game is subject to some criticism, the basis for this being the contention that predatory animals and birds are "God's Creatures" and are created for some good purpose. The point relative to being created for some good is granted, but if the various predators that all sportsmen seek to control in Illinois are "God's creatures", then are not termites, mosquitoes, rattle-snakes, mice and rats "God's creatures" also? Does anyone wish to have these pests too numerous? Does not everyone approve of controlling them? No one would think of letting such pests as I have just named overrun our states for any sentimental or humane reasons.

In the past, the Illinois Department of Conservation has, in my opinion, received undue criticism from various humane societies for its destruction of the crow. Authorities differ widely on the attitude to be assumed toward crows. As insect-eaters, all bird life, including crows, constitutes the major control provided by nature. A large part of the crow's 38% annual corn diet is probably consumed between November and March, and is, therefore, a waste to the farmer. This yearly diet average is not generally approached during the spring and summer months, when sprouted or growing grains are sometimes their target. The crow is recognized as a nest-robber of both wild birds and domestic poultry, the latter being a negligible consideration where proper housing is practiced. As a carrion-eater and consequent disease carrier, criticism of the crow is justifiable but may apply to many other birds and even to carriers beyond our control.

There is nothing new about the crow's habits, and taken individually, he may offset most of his destructiveness by his good. His ability to survive and multiply under adverse and changing conditions is probably his greatest sin. "Too many crows"-- is probably the answer to all the crow problems and the reason for most of the notorious traits for which he is criticized. Other birds, which have all the desirable qualities of the crow and in addition, many of their own, may

find existence difficult, or even be driven out, because an excess crow population has deprived them of food, cover and peaceful living conditions. Destructiveness in agricultural losses will increase in direct proportion to the exhaustion of natural subsistence resulting from too many of any one species. If the loss to the agriculturist, chargeable to each crow in Illinois, is computed as amounting to 1¢ worth of grain, poultry eggs and young fruit, vegetables and melons each day, we would have a total per bird of more than $3.00 worth of damage each year in addition to the loss to sportsmen and society of game, song and insectivorous birds.

The probable average life of the crow is 30 years, and like the parrot may extend to 70 or 80 years. Therefore, the crow's lifetime damage can reach a high total. In Illinois, thousands of acres of agricultural land have been an attraction to the crow. It is estimated that approximately four million crows winter in the major crow rookeries in Illinois and more than half this number are present to practice their destruction the year round.

Water fowl, quail, pheasants, doves and other game birds have been the victims of the combined effects of over-shooting, drought, disease and predators and the destruction of their habitat, but the crow has suffered little from any of these. This situation has been growing more evident every year since the turn of the 20th century. While everything has been happening to the birds we desire to multiply, little or nothing has been done to retard the crow population, and the balance between the crow family and other bird life, in most States and in Canada has been upset.

In 1933 the Illinois Department, realizing the effect of the ever-multiplying crow population, inaugurated a crow reduction campaign on a minor scale. Feeling that it was necessary for this program to be enlarged upon, the Illinois Legislature, in 1939, upon request of the Department of Conservation appropriated funds for predatory control in Illinois. Through experience, the Illinois Department has found that the most effective method of controlling the crow is the use of dynamite bombs prepared by employees in the Predatory Control Division.

The Department does not recommend the employment of this method by inexperienced persons, as it is not only hazardous but incurs considerable expense. Especially prepared dynamite bombs are hung in the crow rookeries and discharged by an electric blasting machine at night when all of the crows inhabiting the rookeries are roosting. Under proper conditions, each bomb will kill from 100 to 200 crows and more than 32,000 crows have been destroyed in a single night. During bombing campaigns conducted by the Illinois Department of Conservation during the winter of 1938-39 and 1939-40, it has been estimated that more than 600,000 crows were destroyed.

The total material and administrative cost of this crow control program has been figured at approximately 1½¢ per crow killed. In many States the shotgun, in the hands of individuals, has been one means employed to shoot a crow rookery. We, in Illinois, have found this method not practical for as soon as a few shots are fired, the main body of crows leaves and does not return. On a very stormy night a few may do so but in nine out of ten crow rookeries fired into with guns, the crows find a new rookery and scatter per-

manently into smaller, "harder-to-locate" rookeries. For shotguns to be effective in crow control the hunter should be on a flight of crows two or more miles from a small rookery in a good "blind" to conceal the hunter using a crow call or crow decoys. Another way to control the crow, especially for the farmer to save himself a lot of grief, is to hunt the nests and destroy them. Extreme care should be taken not to mistake some other bird's nest for a crow's nest. Crows nest in Illinois from March 15 to June 1.

The Illinois Department of Conservation, in its predatory control activities, asks for the cooperation of individuals, sportsmen's organizations and other interests throughout the State. Splendid results have been obtained from conducting competitive shoots and hunts of predatory life. These contests arouse intense interest in every community and when all hunting seasons are closed, supplies an outlet for the urge to hunt. There should be much interest also in this work among merchants, especially those selling sporting goods, ammunition, etc., as the conservation of our game means the perpetuation of their business.

The Illinois Department of Conservation feels a deep concern in this work. It is spending the sportsmen's money for game propagation on a large scale, and must only fail, if Game's enemies cannot be effectually controlled. What justification can be given to replenishing the supply, when the losses are not checked?

Mr. Hutton: I'd be glad to hear anybody talk that wants to, but there is one question I'd like to ask. What happens to the trees?

Mr. Lynch: It doesn't do any damage.

Mr. Hutton: Any other comments?

Mr. Lynch: Our bomb operations are carried on in the fall and winter.

Mr. Hutton: Well, I think we might as well adjourn until afternoon because there is hardly time to take up the next subject.

ADJOURNED

MONDAY AFTERNOON

Mr. Hutton: While waiting for the rest of them to get here I want to tell a little bit about what was done last winter. Most of you, I think, know that there was a meeting held in Madison. The Joint Congressional Committee on Forestry met and was presided over by Congressman Fulmer, and at that time we endeavored to present certain matters pertaining to state rights as applied not only to Forestry but to every kind of Federal matter.

Later on after a conference with various states we submitted the same brief to the special Committee on Wildlife Resources of the House of Representatives in Washington. At that time there were certain representatives there also that spoke along the same lines. That was

supposed to be put into the proceedings of the hearing and eventually we wer supposed to see all those things brought into print.

Now, I want to announce the appointment of two Committees at this time, these members being:

On the Resolutions Committee I appoint:

Mr. Swift of Wisconsin, Chairman, and Mr. Cluett of South Dakota, and Dr. Strunk of Minnesota as the other two members.

On the Nomination Committee I appoint:

Frank O'Connell of Nebraska, Chairman, Mr. Roberts of Missouri, and Mr. Martin of Illinois as the other two members.

After the election of the new officers there will have to be a standing committee in accordance with the resolution in the matter of Mississippi River Pools and Flood Control Dams.

The first subject for this afternoon is the "Establishment of Federal Fish Hatcheries" to be presented by Mr. Lynch of Illinois.

ESTABLISHMENT OF FEDERAL FISH HATCHERIES

Mr. Lynch: Illinois, at the present time, does not have a Federal Hatchery within the state. The state operates the only propogation hatchery and rearing pools.

It has been proposed to have the Government build a hatchery somewhere in the State of Illinois. They are considering several sites within the state and I don't believe, at the present time, a definite site has been selected.

Now the question comes up that the Department must decide in order for the Federal Government whether or you will have to pass an enabling act whic I understand is a part of the appropriation. I do know other states have Federal Hatcheries and I want to say right here that the Illinois Department has had all the cooperation and everything that we could ask for from the Bureau of Fisheries. Now the question as to what the Federal Government may do, inasmuch as the Bureau of Fisheries are being placed under another department of the Government and inasmuch as we do not know whether they are going to remain in Illinois, I bring this matter, this enabling act before this conference.

I have a letter here from Mr. Jackson. Illinois has passed no Enabling Act of any kind within our state. My reason for bringing this before you is to find out, if possible, how many states have passed such an Act, and any experiences you may have had in the matter of fish culture and operations of the hatcheries in your state. Before going back to Illinois I'd like to have an idea of whether it has been beneficial to you or not.

There is no criticism on the part of the employees because they have co-

operated with us 100 per cent and we have cooperated with them. The only thing that confronts us now is whether or not Illinois wants to pass this Enabling Act and I presume if we do not pass it they will not be built in Illinois.

Mr. Hutton: The Law that had been passed by Iowa evidently would give the Federal Government the right to establish hatcheries and I know they have them here,

Any other states that have given rights?

Mr. O'Connell: I am not familiar without checking on our laws on that, but I know we have no specific Enabling Act for the Bureau of U. S. Fisheries in Nebraska. There was no specific act passed. There may be some other Act that comes under something else. We do have on the Migratory Waterfowl but not on the Fisheries and we have a hatchery.

Mr. Towrson: Mr. Chairman, Minnesota does have an Enabling Act, not in terms proposed by Illinois but in addition acquired by condemnation a rearing site and by a specific act of the legislature turned over that property to the Federal Government for the Establishment of a Fish Hatchery. I think, probably, that is the better procedure, generally permitting the state to proceed to acquire and then turn them over to the Federal Government for appropriations. Of course, we have been very fortunate in having Captain Culler, who has cooperated with the state in every instance and in every respect, and there has been no conflict with the Bureau of Fisheries. We have had the finest relations. We have handled it specifically, although there is an act authorizing the acquiring of lands for various purposes over which there shall be joint jurisdiction, not exclusive.

Mr. Hutton: How about Missouri?

Mr. Bode: We have a Federal Fish Hatchery. It is on city property but, as far as I know, no specific Enabling Act is there. As far as any conflict, we have none. We do think there is some duplication of effort. We hope it is going to help a lot along that line.

Mr. Hutton: How about Wisconsin?

Mr. Swift: In Wisconsin we have a sort of an Enabling Act that provides a Federal Bureau of Fisheries with a certain amount of liberty, and I believe at the present time we have three hatcheries in our state.

The only thing that we have asked of the Bureau of Fisheries is that all fish planted within the borders of our state be planted under the supervision of us the same as our own fish are planted.

We will say, however, that the Bureau of Fisheries has cooperated with us very good and we hope to have as good cooperation in the future.

Mr. Hutton: How about South Dakota?

Mr. Cluett: We have a Federal Fish Hatchery out at Spearfish, but I know of no enabling act that the State of South Dakota has passed. That hatchery has been there for quite a few years.

I might say, in regard to that hatchery, we can raise fish about one-third greater in size than the Federal Hatchery.

Mr. Hutton: How about Kansas?

Mr. Josserand: We have a Federal Hatchery being constructed. I am not familiar with the procedure or what transpired in getting that hatchery. In fact now we have a move on to try to get them to enlarge Fort Riley, a Military Reservation, so that they could come into Kansas and establish hatcheries where they saw fit.

Mr. Culler: May I explain about these fish hatcheries? The one in Missouri at Forest Park does not belong to the United States Government. We are just operating the city hatchery and the one at Monosa, Missouri was established before any such requirement was made by Congress. The one at Spearfish is the same. The Enabling Acts were requested somewhere around 1920 or '21 in one of the southern states. In Minnesota we are just establishing a hatchery site. The citizens up there bought the rights at New London for $14,000 and sold it to the state for $10,000 and they turned the site over to us, but the dam still belongs to the state. We only have an easement for the water at that point.

I can assure all of you fellows in the Midwest Association that as long as I am in charge of the Fisheries, and I know it is the wish of the Commissioners to go with you on anything that is right and reasonable and like in Wisconsin we send fish out and when we do we notify the agent at the same time and in Kansas the passage of an Enabling Act gave us the right to come in to the state.

Dr. Strunk: Well, I'd like to reiterate the remarks made here primarily that with Captain Culler we certainly do not have to worry. I have been Commissioner for a period of about five months but I have already had a number of contacts in connection with a number of problems and his cooperation has been of the first degree.

But, there is a problem and it may be at the time Captain Culler goes with the immortals and some other individual whose attitude is not as friendly.

We have just at the present time those lakes analyzed in order that our fish propagation can be carried on in a scientific manner. Now, say that a man comes in to head the Bureau of Fisheries and sets it up and is not sympathetic to us in that connection and say that we have no power whatsoever to prohibit the planting of fish from a certain lake. In connection with that we are planning on getting legislation enacted whereby the state will have absolute control of the planting of fish. The fish will be sent from the Federal Bureau to the state and the State Department will then have the

power to pass upon whether or not that individual will be allowed to plant those fish in that specific lake. Naturally, as you all know, this will involve a law enforcement phase upon checking up on Lake X and to see that he does not plant in Lake Y. Now that is the thing we are faced with at the present time.

We have in Minnesota a program of analyzing the lakes to see just what each lake is fit for and that at the end we will absolutely have those lakes tabulated and on file, and we certainly do not want that blocked now. I think that an individual should not be allowed to pick up fish whatsoever, but that all planting should be under the strictest state guidance.

Well, the next best thing is the checking up and following up to see that the planting goes right, but I know as long as Captain Culler is in there we won't have to worry, but we don't live forever. We have gotten along good so far on the fisheries in the state but let that set up step aside and then what?

Mr. Hutton: Well, I'd like to say, in regard to Iowa, all requests for permission from the bureau of fisheries comes to our office for approval.

Mr. MacKenzie: We do the same thing in Wisconsin.

Mr. Towrson: I don't suppose that anybody would object to the control of the Bureau of Fisheries as to whom they are going to give their output to and I presume to follow it through and see that they are planted where they are intended but I imagine there would be objection. But I do think that each state might and there should be no objection from anybody's point, providing legislation prohibiting the introduction of any fish into any body of water unless with the approval or consent of the Division of Game and Fish or Department of Conservation.

Dr. Strunk: I think we should draw up a common resolution to that effect. Of course, for some states it is not going to be as beneficial but I am looking to the future. If you will accompany that bill with a companion bill retaining the control so as to cover Federal Hatcheries, wouldn't you be perfectly retaining control over planting of any fish?

Dr. Strunk: Somebody was suggesting a resolution, I forgot who it was. I think we should pass a resolution, and I am not trying to read an obituary on Captain Culler but we are just looking ahead. I think an organization like this can put plenty of pressure on and bring it to bear in such a manner on the basis of writing that it is a policy. I make a motion that no fish be stocked in lakes without the permission of the proper authorities.

Mr. O'Connell: I second that motion.

Mr. Hutton: It's been moved and seconded that no fish shall be stock-

ed in the waters of the various states without the permission of the various states without the permission of the Fish and Game or Conservation Departments, or removed either without such permission. All in favor signify by saying "aye".

Motion carried.

We will go to the next topic. We are just five minutes behind time. Now "Small Farm Ponds" is next. Mr. Frank O'Connell, Secretary of the Nebraska Fish and Game Department, will present this topic.

SMALL FARM PONDS

Mr. O'Connell: During the past several years many citizens, particularly farmers, have become interested in stocking small farm ponds with fish. Throughout the middle west many small ponds primarily for soil and water conservation have been constructed by the Civilian Conservation Corps and other federal agencies, and farmers desire to use these for fish as well.

All such ponds should be surveyed before any attempt is made to stock them. In many cases they will be found unsuitable to sustain any kind of fish life and will not only result in a loss of stock on the part of the state but will disappoint and embitter the owner of the pond.

Most of the small ponds that I have seen are constructed merely by an earth fill and it cannot be expected they will last very long. I do not mean to say that these ponds may not serve their purpose of collecting soil or holding water for brief periods of time. What I do mean is that they will not serve to hold water long enough to establish aquatic vegetation and allow fish to mature. They are bound to wash out in many cases in view of the sudden downpours of rain to which they are subjected in many areas. If they overflow or wash out, they can be repaired if the farmer has the initiative to do so and they will continue to hold water and stabilize considerable soil. But the fish will be gone.

If after a survey the pond appears to be so constructed that it will not quickly level off with silt or is not subject to floods, and will produce vegetation to support fish life, then such places may be stocked with the hardier species of our warm water fish. We usually recommend bullheads and occasionally bullheads and crappie or bullheads and blue gills.

One of the difficulties encountered in stocking such ponds is just where John Q. Public is to come in. We have had many requests for stocking these small ponds, and in most cases the owner is unwilling to allow any one outside his family and a few close friends to fish if and when the fish are of a catchable size. In our state we cannot legally stock such waters without making a charge for the fish. This is a matter that should be thoroughly understood before the stocking takes place or otherwise it is likely to cause no little trouble or misunderstanding later on.

Generally speaking, I am of the opinion that comparatively few of these small soil-erosion or water storage ponds constructed by federal agencies

are of much value for fish life. Some of the larger ones, where rock riprapped and guarded from floods are suitable and can be utilized. But I do not believe we should embark on a program of stocking every one of these little ponds, nor do I think we should encourage farmers to buy fish and put in them.

On the other hand, there are a large number of possibilities for suitable small farm ponds which we can promote and stock. In the main, these ponds will have little value for soil conservation and will not appeal to the representatives of those agencies dealing in the soil-erosion problems.

I have in mind those ponds that can be fed by small springs, seepage water from irrigation and drainage ditches and pasture run-off, away from cultivated areas. In many cases excellent little ponds can be constructed to hold back such water. Construction costs do not as a rule come very high and they will often make a happy, permanent home for a nice lot of pan fish.

There are several rules that should be observed in building such ponds.

1. Flood hazard. Before a pond is located the flood hazards should be carefully considered. Many times flood waters can be detoured by ditches leading around and away from the pond. In other cases, the danger of floods can be averted by locating the pond closer to the source of the water, even tho it may be necessary to reduce its size by so doing.

2. Dams should be constructed insofar as possible to avoid wind damage and muskrat burrowing.

3. Adequate spillways as far from the dam as possible should be constructed. These should be of a size sufficient to handle the average runoff.

4. Drainage controls, where possible, should be constructed. These should be foolproof to avoid malicious letting out the water. A pond that can be drained is far more valuable for fish production than one which cannot be lowered.

Before ponds are stocked, water temperatures, depths, food supply available and other characteristics, which have a bearing on fish life should be ascertained and then the species placed therein which are best suited to prevailing conditions.

Mr. Hutton: We will now have a discussion of this topic by Mr. Cluett of South Dakota.

Mr. Cluett: We have at the present time 1240 what we call artificial lakes in the state. Now these range all the way from one acre up.

We do have a number of small dams that are constructed on these dry runs, mostly out in our cattle and sheep country. This program is going to be very beneficial to our upland game, especially the prairie chicken and ruffled grouse and the Hungarian partridge. We have, at the present time, several hundred thousand acres that are being taken out of production and most of these areas are constructing numerous dams. The Soil Conservation Service is cooperating and turning over certain areas and planting trees and shrubs and it is going to be an important factor in bringing back our present depleted prairie chicken and grouse. We have a law that was passed in our state in 1939. I don't care to read the law in whole. I did, however, bring such copies along so that I can furnish each State Department with a copy of it.

In South Dakota they pay the land owner to construct these dams. This program is certainly going to do much for the wildlife. We are out where our rainfall is negligible, about fourteen inches per year and for us this is really a beneficial program. If any of you men care to have a copy I will leave it up here. I don't want to bother to read the law, but I am sure the boys will be interested.

Mr. Hutton: Well, if I remember correctly, they told us in Washington last spring the Soil Conservation Department constructed something like twenty-five thousand pools and small lakes. It is a subject people here in Iowa are quite interested and I know in the southern part of Iowa and the northern part of Missouri there have been a great number of ponds constructed. I know that Missouri has a very good many small ponds. I'd be glad to hear Mr. Bode give any remarks on this subject.

Mr. Bode: Well, I don't know that I can add very much. The "Small Farm Ponds" program has, in the main, been going ahead under the Conservation Service. We have cooperated wherever we can. Last year we determined that one of the principal factors for quail in the northern part of the state was water which also applied to the other wildlife.

Well, to encourage small pond building, the Department made available to the farmers, scrapers because we found the Soil Conservation was limited to the amount of equipment they could furnish. They could furnish the power but didn't have the scrapers. This year we are putting twenty of these into the field. We set up certain simple specifications. Some of the people think these are too stringent but we have to loan them under the specifications of stocking of those ponds with young fish.

Question: These ponds in Dakota, are they open to the public?

Mr. Cluett: Everything on private land we are not allowed to stock with fish under the law. Of course, there is a way around. We have a lot of lakes that are overstocked. We can give the boys a little hint as to how they may be able to stock the ponds. I might add, on these small ponds west of the River it is surprising to drive on the highways and see the number of small ponds that have been constructed and everyone of them is practically full of water. I see from one pair up to a dozen pair of ducks. We have increased our duck population tremendously and the water will be of sufficient depth.

Mr. Bode: I might say further. We have a definite situation in the western part of our state where these water holes are very valuable for the game birds, like in South Dakota. What I had in mind, primarily, is these little ponds down in the agriculture part of the state. There hasn't been very many except the larger bodies of water and some pot holes which were constructed by the Federal Government.

Mr. Hutton: I wonder if somebody can't comment on these Small Ponds in regard to value for upland game more than it has been done.

Mr. Schwob: Our experience in the State of Iowa on our state-owned lands where we have had a very low quail population we have been able to increase the quail population by the simple fact of adding water. That thing actually made the area productive and there is no question in my mind that the water is of primary importance.

Mr. Hutton: I'd like to ask the members as to what experience they have had with blasting of holes to improve conditions for ducks and fish?

Mr. Scott of Iowa: We did some blasting last year. A little pothole of a lake north of Ames near Jewell, Iowa. It's a lake of 190 acres and the idea back of the project was based on some work with redhead ducks near Ruthven. We found that our redhead population there was limited somewhat by the absence of open water areas, the dense stand of marsh vegetation and we felt that by blasting openings in that stuff and by being able to get a better dispersion we could increase our population of ducks.

So last year on Little Wall Lake we attempted it experimentally. We thought the result we got there could be easily applied to the other areas. That is the method by which we blasted the dynamite at various spaces, depending on the size of the charge. For three feet we used the three-stick charge and at twenty-four inch intervals, you can blast a ditch ten to twelve feet wide. Of course, that varies with the kind of soil you are working on. We found that on hardpan we blasted from three to five feet beneath the surface we got a beautiful ditch. You can "dog" it or run it straight across the slough, whichever way you like. We found that when the blasting was cushioned we didn't get a very deep ditch. The ditch was from one to two feet deep and it was about eight to ten feet wide and so in that particular type of soil it wasn't very satisfactory.

This year we went into the Ruthven area and attempted to carry on our work farther. We blasted eight holes up there and we had very good luck. We found once that blue winged teal used those holes and nested. As yet we have found no mallard nests around there but we have attributed that to low-water levels in the area rather than to failure on the part of the project. The water was down in general throughout the whole area.

I think that the possibilities of blasting are great. We found that we used our dynamite just as economically, got a wider ditch by putting in what we called a post hole charge. We dug a post hole about every five feet and put in fifteen sticks of dynamite, two and three stick settings in between and then some thirty feet farther and that gave us an irregular outline of the ditch which we think is desirable. Incidentally, we found one nest of muskrats lately. The ditch isn't over a month old and muskrats have already moved and stuck the house in the shoulder. They are nesting the young in the house. The cost of the excavation is about fourteen cents per cubic yard. Perhaps with a dragline you can do it for six cents, which you can work much more cheaply, but where you are just going to do a small amount of work and have no machinery to go on the slippery soil, dynamite might be best.

Mr. Hutton: Well, if that is all on that subject we will go on to the next one, which is "Stream and Lake Improvement" to be presented by Dr. Smith of Minnesota, Chief of the Research Division. Dr. Smith.

STREAM AND LAKE IMPROVEMENT

Dr. Smith: Stream and Lake Improvement is a very large problem of subject. That is a pretty large order so I am going to try and bring out a few of the outstanding principles that we are trying to work on.

Minnesota Lake and stream improvement is too frequently thought of, in the general public minds, as the construction of various log and rock structures in our streams. Well, that is only a very small part of it. Another misconception of it is that stream and lake improvement is aimed only at improvement for game and fish but it is equally important for the conservation and management of waters, recreation, and water resources for public use, such as water supply, etc.

So in our Stream and Lake Improvement we are trying to keep in mind all of those uses of water which come from those lakes and streams.

Now, the first step we are taking in Lake improvement is one which should be considered without dispute. That is a thorough research of the water and we look forward to the establishing of lakes and streams so that we will know what that stream and lake, what potentiality for lake and fish production it will have. We are under way but it is going to take a while. We have at least 10,000 lakes, some of which are not named, so our problem is very large.

In our program of lake improvement, specifically, at the present time we are interested first in the maintenance of water levels. We are fortunate in that respect because the Division of Drainage and Waterways which has control over that phase is part of the Conservation Department and we have perfect coordination between the Division of Drainage and Waters and the Division of Game and Fish.

Next in Lake Improvement is the control of species in the lakes. Now

that is a big problem, as I think the gentlemen from Wisconsin will agree with me. We have found that the use of contract fishing is not adequate and we are being forced to go into fishing by the Department and we hope to enlist the cooperation of the various sportsmen's organizations under some program that will be efficient and desirable.

Now to turn to Stream Improvement. Practically everything I have said about Lake Improvement applies also to Stream Improvement. I think it is more true of Stream Improvement that we think of physical structures. What is the use of building a stream so that it is perfect according to the health of the stream improvement if we are going to wash in dirt from bad erosions along the bank wall or forests. Our first problem in those respects is to prevent erosion and restore cover. Then restore the bed of our stream. Now in the southeast corner for erosion control we let the Commission go in under complete control; then we go and do stream improvement.

Of course, in stream improving we can't forget proper stocking. We have stocked streams with fish. We have been doing that for years. You can't make any blanket statement with regard to planting of the waters, and we are trying to find out what each wants or needs for restoring the species and the kind of fish and number you want to the streams.

Every stream must be subject to individual consideration and managed according to its own specific plan. Otherwise our stream improvement may be more of stream damage than stream improvement.

There is one other thing to stream improvement that really does not have anything to do with the stream. That is fishing that can be done in our northeast region of the state--north shore area. We have small pothole lakes, many of which are suitable to trout propagation and rearing or can be made so with some effort. Now, part of our program in improving streams is improving those adjacent to relieve the load from these streams that is in a relatively poor area in the sense of fertility. Our money would be well spent in something along this nature.

Now, I haven't and I probably left a lot of things unsaid that are part of our policy, but this, generally, is the plan we are trying to follow.

Mr. Hutton: Mr. Aitkin will lead the discussion.

Mr. Aitkin: You people have heard the summary of Stream and Lake Improvement in its general sense. There are several factors that probably should be mentioned and that is in relation to public streams and privately owned streams.

In the case of Iowa we have 15,000 miles of streams and only 800 miles belong to the public. In other words, nearly all the streams are privately owned and therefore we are attempting to manage the fish in the private waters. In states, such as Minnesota and Wisconsin the major portion of the streams are perhaps state and government owned

streams. Of course, the problems there would be different than some of thes other agriculture states where better than 95 per cent of the entire areas are privately owned.

It means that the conditions of these streams has changed in the past years. Every day we are changing the biology of the streams and so the stream improvement features that we run into here in the State of Iowa would have to be considered along those lines. In other words we are reaching the conclusion to take surveys. One would not have to keep a continual survey and analyze these streams but, in my opinion, keep cases from year to year. Then again, of course, in these states the biggest question is the one brought up this morning and that is "the greatest good to the greatest number of people."

As I see these lakes and streams they are our most valuable asset and resource. Then, of course, we must consider these lakes and streams not just from the value because of conservation; as, no doubt, the use by mankind of all the natural resources in such a manner that it makes its reward. We would have to consider such as the use of the streams for power, for navigation and industrial uses in the city. We are seeing our major inland streams taken care of in that respect. These conditions make it unfavorable for the game fishes and that when the pollution is eliminated from those sources a better condition exists for the game fish. Then again, when it comes to the artificial improvement of the streams by devices or by dams it might be stepping into the middle of the problem to step out as we have here in Iowa to improve streams by mechanical devices without the thought of the type of water which comes in there or of the dilluted hillsides, as well as the incoming silt that makes this stream too turbid for fish life and other aquatic forms of life. That should be taken into consideration on a long-time stream improvement program. You would have to consider the activity of the Federal Bureau of Soil Erosion and Reforestation and it seems to me we have made strides in the various states in the need for stream improvement. It seems to me that in the past we have missed the "bus" in not taking advantage or greater advantage of these Federal agencies. The proper stocking of fish can come only with a history of each area.

As far as we are concerned we can't speak with much authority in Iowa because we haven't many lakes. You people in Minnesota could go out and find more lakes in a little while than we have in the state. But, I can see in Lake Improvement taken from the experiences we have had in building something like 18 artificial lakes in Iowa for fish purposes that advantage can be taken of the knowledge gained through the building of artificial lakes and servicing them for better fish propagation and fish management than our natural lakes even though they are filling up in some degree and even though many miles of the shoreline is privately owned. Even though they are heavily fished we have hardly scratched the surface on the improvement of our natural lakes and there is still a greater opportunity to take advantage of the many miles of shoreline that are unproductive.

I have barely mentioned some of the things here, but these more fundamental problems of ownership, the public ownership of our streams is a primary importance, for we can hardly expect to manage the property that belongs to someone else.

Dr. Smith: The point that I forgot to mention was one of the essential features of our program. With reference to pollution, that falls essentially under the State Board of Health. Our Department contributes, every year, to the funds of the State Board of Health to carry on the fisheries problem.

Mr. Hutton: Do you cooperate financially with the United States Geological Survey or do they finance themselves?

Dr. Smith: Yes, they hit us.

Dr. Strunk: In regard to the research. We have it under the Division of Fish and Game. We have six divisions that make up the Department of Conservation.

One of them is the Department of Game and Fish. We have a number of Bureaus; a Bureau on Dams, a Bureau on Research, a Bureau of Law enforcement, a Bureau of Clerical Work under the guidance and having to do with the Audit.

In connection with the Fisheries setup we have Dr. Smith help us and he was under the University and is a full-time member of the staff. We take cognizance of the fact that he is helping us and at the University they cut down his teaching load. We have Dr. Eddy in order to make the necessary examinations and we have a laboratory that he uses and that answers in that connection. Also, with that laboratory setup it is possible to bring quite a number of young men into the picture with Dr. Eddy. In other words we have young fellows coming up so that when we need a crew of men to go out and analyze a number of lakes we have them and the cost is very limited, because the University maintains the research section.

Then, on the familiar side of the fence, we have Dr. Swanson, who is primarily an expert on green viruses and diseases of fur bearing anaimals. There is nothing bugaboo at all about it. It is a scientific fact proven that we can get more out of our money, dollar for dollar, because of our connection with the University.

Mr. MacKenzie: But, I do think that probably Lake and Stream Improvement has its place in the Conservation end but nevertheless there has been some tremendous crimes. I know it has been in our State and if we allowed them to continue there would still be greater crimes committed.

It seems to me there is one way of helping "Mother Nature" and that is by working with "Mother Nature" and not against it, and because of the fact that economic conditions in this country brought a situation where people had to be employed and they had to work in some way or other and they sold a plan of Lake and Stream Improvement. Whether it was good or bad somebody had to follow along because we had to take care of the "dear" public.

Now let's look in the good old State of Wisconsin. When those high-

powered politicians came in I found out that one was an old clothing merchant and all of a sudden he was an expert in Stream and Lake Improvement. Another was a "fly by night" fellow. It may have developed that he was an expert along that work, but I say that we should proceed more carefully before we go to tearing down or changing the conditions that nature expected them to be and that is just what has been done in our state and that is just a crime. I don't know what nature will do about it.

Now as far as this research is concerned. In connection with this work set up in the University we have had fisheries for twenty-five years that I know of. We have expended a lot of money cooperatively with the University we have had fisheries for twenty-five years that I know of. We have expended a lot of money cooperatively with the University and they have deduced certain things but not the way we would want. They may give the age and the life of the fish and the water conditions, but who knows anything about fish diseases. I don't think the surface has been scratched on that point.

I set up a biology study within our own Department and we have six men working in it now and a number of WPA men on the side. We have our own laboratory and we learned more in a practical way in those six years than we ever learned in all the years before that. With all due respect to researches which are conducted, I get a typewritten report from them once a year telling what they have done and they have their laboratory to be helpful to us.

Now it seems to me that if you have direct control of your research work within your department that you can attack a problem which should have been done years ago. We have our own laboratories with pathologists studying game and fish diseases and under our direct control. So far it has proved successful and I think it is going to be more successful. I think if we spend more time looking into the reason why we are going to do something, it is more practical.

Now, this boy says that the planting of small fry doesn't work out. How do you know that this doesn't work out? Have you investigated? We have.

Dr. Strunk: Well, now here is our picture. It is just like turning a country kid into the city without any knowledge of that city. It is the same way with small fish. They are not able to get along as well as when they are larger.

About this research again. It is the argument between Wisconsin and Minnesota that we are associating with the University. Now the University is under direct control and have every available facility which would cost me thousands of dollars and as far as we are concerned it is 100 per cent. Why in the blazes should I take fish and game money to keep them on the roster? Why should I, when the University setup with Dr. Eddy, are under me and they will continue under our control. The University says we are an institution of learning therefore, we make the service. These men are the guiders of research.

I think Dr. Eddy's work has been a tremendous boon to the state of

Minnesota. Dr. Smith has just come into the state.

Mr. Aitkin: I might say briefly about the fish situation here. We have a limited mileage, possibly a maximum of 150 miles of trout stream. We only stock seventy-five miles of those. New York State has 20,000 miles and they have sixteen hatcheries.

Mr. Hutton: I think some more discussion could be had along this line. Different states have different ways.

Mr. Bode: As far as our Fisheries research is concerned we have to go with Dr. Strunk, I think, because we are taking the same attitude that he has. There is a great mass of laboratory facility and guidance supervision that we can get that we would have to provide. We have found no great difficulty in getting the supervision from the University and to make them understand what our problems are and I think that we can recognize that there is a large branch of research work that should be done. Theoretically, we don't attempt to control that either because that is their business. We get something valuable from them and we don't attempt to exercise any jurisdiction. They are filling in the blank spots and we have got to have a background.

I don't know about the practical or applied research of it, but then it has a meaning for us fellows who have to take it and build a background for some of the work we are doing.

Now, in the Fisheries program we are starting that the same way. We have found not very much difficulty in getting control of the kind of material we want, and one of the reasons why I feel that way about it is because of the proper working relationship. I am afraid the result will be abominable if you try to control research too much. In other words, if you get a working relationship I think you will get out with better results.

Mr. Lynch: Well, to be frank with you, the Natural History Survey just about run the State of Illinois and the Department of Conservation. But today we have in the Illinois Department of Conservation fish culturists and recently under the Pittman-Robertson Act we have employed two biologists. They will eventually be taken under the wing of the Conservation Department.

We do not get anything from the Survey unless we ask for it. They go out and receive more money than I do. They are building a seven hundred fifty million dollar building. But if we want to find out anything they never tell us anything they are doing unless we ask for it. So far as Illinois is concerned we have a very good scientific body, and I imagine they are doing a lot of good work, I couldn't tell you.

I will say prior to the last election there was no conservation department and he had that handed over to the Conservation Department and it has gone forward. We are bringing into the Department trained men and placing those trained men in charge of the Division and giving them authority to act and so far as research is concerned I think we

will bring in more research men. We will employ them ourselves as we have money. We will probably build laboratories and this will be only for the Department of Conservation.

Mr. Hutton: Mr. O'Connell, what do you do in the way of research?

Mr. O'Connell: Mr. Chairman, in our fish end of the works we have done very little. I feel very much like Mr. MacKenzie as to background. We are getting work started under the Pittman-Robertson Act. As far as Nebraska is concerned it is a very small state and with the income from hunting and fishing is very difficult to solve the problems. I have always felt, as far as fish were concerned, that research ought to be the big fundamental work of the Bureau of Fisheries of the United States. They have been set up, they have laboratories and they ought to be able to work out something. In fact, I believe, generally speaking, we would rather have some good solid practical information from the United States Bureau of Fisheries on how to handle diseases and in the production of fish. I believe that would be right down the alley for us smaller states because it is almost impossible for a small state to carry on a research program.

In regard to the matter brought up regarding stocking of streams. Now we have, in Nebraska, second and third rate trout streams. We do not have first-class trout streams but we are getting out the larger trout in those streams and it is much more satisfactory and are getting better results for the fishermen. Of course, you can breed up a much better and hardier fish if you put in the fry and bring him up. There is two sides to the argument though and it will depend entirely upon the matter.

Mr. Cluett: We do not have any research setup. I have only been with the Department since the first of the year, but as I understand it they have not paid out one dime for any research, either in the fisheries end or the game end. I don't know, we have got some of the best hunting in the United States and some of the best fishing in the United States. We are contemplating setting up a research project and that will be more along the upland game. As far as the fishing end of it, maybe our Chairman could give you an insight on it because he has been with us for eighteen years.

South Dakota: Well, the size of the fish we have had I don't know a great deal about it. We have been holding back until sometime in the fall.

Mr. Hutton: Probably something that could come in for a bit of discussion is Lake Improvement by dredging. We have started something along that line and yet it's rather expensive. In recent years they have worked at Lake Blackhawk and now are working at Storm and North Twin Lake.

Mr. Aithin: There is one other thing that hasn't been mentioned, that Iowa has taken into consideration and that is the passage of fish over dams. I think, perhaps, that should have some discussion because I know Minnesota and Missouri have written to me about plans.

Well, just briefly here in Iowa we have usually a shallow stream and the question comes from the sportsmen concerning the passage of fish up into the upper region. In other words the dams along the streams retard the natural courses. There is a law that there must be a fish passage at the time it is constructed.

Something like five models have been built and they have had models from the Dominion of Canada and we even got the best model in Europe which was in Belgium and a modification was tried out in the Iowa River under the natural conditions.

I think the United States Bureau of Fisheries has come into Iowa to study this fishway. I do know this, that in the research that was done there were many problems brought to the attention of them, though no one has heretofore thought in the connection of the migration of fish, even in the hydraulic laboratories of the biological phases. It is a problem that is going to be of value to all the states concerned in the passage of fish.

Mr. Aitkin: There are two types, pool and channel type.

Question: What do you estimate the distance that a fish can get over in a dam?

Mr. Aitkin: I think we have a measure of something like nine feet. That is the problem, there is a limit to the distance that they can jump and they can't jump any farther and we have to make our runs to that certain peak.

CIVIL SERVICE LAWS

Mr. Hutton: Our next topic will be presented by Mr. Towrson, Special Attorney General to the Department of Conservation of Minnesota.

Mr. Towrson: Mr. Chairman, and gentlemen. Minnesota has a brand new Civil Service Law. I presume we are not in as good a position for this discussion as some of the others which have been operating under this same law for some time. However we are discovering some very interesting things about the Civil Service Laws. I might mention the history just a little bit.

The Department of Conservation in Minnesota has been especially political, dumping every kind of game warden in who is especially able to get a few votes and who is a personal acquaintance of some senator or representative who could put the heat on a little. When he was able to do this he became a game warden or some other employee of the Department. Well, the sportsmen of the State are pretty well organized and have been for some years and there was a cry started a good many years ago against that sort of thing and demending that the Department of Conservation, especially, be taken out of politics.

In 1931 a law was passed which provided for a five man commission who were given the authority to appoint a Conservation Commissioner. The thought being that he would be at least one step removed from political control. That system didn't work out in the State of Minnesota, so a law was passed in 1937 providing him to serve a six-year term, removable for malfeasance in office. He was directed by that same law to establish a Merit System. Now he could permit all the leeway that he needed and that was one of the results of the so called Merit System in Minnesota.

It, perhaps, wasn't given much of a chance to function but it didn't have much effect so far as personnel was concerned as to security of tenure. So at the last session in 1939 a state wide Civil Service Act was passed, covering all state employment and abolishing this Merit System that had been set up in the Conservation Department.

Now, this law which is an accumulation of provisions from other Civil Service Laws throughout the country granted special preference, among other things, to all veterans who were on the payroll at the time the act went into effect and granted a permanent specified status to all men who had been on the state payroll for six months or for five years at a time, six months following the effective date of the Act. In other words, this was a six months probationary policy to get rid of undesirables. Those who had been on the payroll less than five years were also required to take a qualifying examination which the law provided was to be based on their actual duties only, and not on any theoretical questions. Following this examination they were placed on a six months probationary period and that has been done to allow employees to advance according to their competitive ability. It is for the purpose of building up a list of eligibles for the future. We don't know what the ultimate result will be, but there has developed in the Civil Service Law, a sense of security and tenure to the man who has been classified into it. He, perhaps, can proceed with his work without feeling that he won't be back tomorrow.

It gives a man a feeling that this isn't just a job and that he can get by without working. He knows that unless he actually steps beyond the bounds of his propriety he cannot be relieved of his office and of his salary. Well, we have found this: There are very few individuals who are not vulnerable to changes of some kind or another and the effect of eliminating undesirables who are just getting by but are not really doing a job. On the other hand we have run into a good deal of difficulty in replacing some vacancies with employees of the character and the kind of ability that we'd like to get. We do have a provision in the Civil Service Law which permits the appointment of out of state persons of a professional character, requiring a high degree of skill and training. That takes off the load so far as getting various experts from the field concerned, but in the other jobs the Act limits us to residents of the State of Minnesota. Now that restriction of the field cuts us down to a considerable extent and the result has been that we have had to create a number of new positions.

Now it is marvelous how many positions can be created if you have to do it--such as technical consultants and assistants. We are getting quite a lot on our Civil Service payroll at the present time.

I think the warden force, for instance, has taken on a new lease of life. They feel that as long as they keep their faces washed they are secure in their positions. Most of those men are vitally interested in outdoor life and conservation. Those who were not have been largely eliminated during the past two years, and the result is that there is a spirit that has never been present before.

I believe that it will creep and grow, based on the knowledge that they are going to be able to continue just as long as they do their jobs. I think that is the greatest boon that Civil Service is conferring on the State of Minnesota. I can't speak from my length of experience in this matter. I am merely giving expressions of the work I have had in connection during the past year.

Mr. MacKenzie: You know it pleases me greatly to learn that finally our sister state of Minnesota, which we have so many pleasant meetings with on conservation, has at last started to have a Civil Service setup for their employees.

That has been contemplated for sometime and when my good friend stated that he was going to bring it to pass I thought maybe he'd do it, but I guess it has been in the mill.

We, in Wisconsin, have had Civil Service for over thirty years and it has proven highly successful and will still remain successful if we can keep the politicians out of it. Up to this time, all employees in our state, except the constitutionally elected officers and certain officers appointed by the Governor, are Civil Service employees. It is a pretty hard job for a Department head under the Wisconsin law to discharge an employee unless he has a perfect right to and it should be that way. I don't believe that you can have a successful Department of any kind if there is a continuous changing of personnel every time you get a new Governor. It will not work out.

Fortunately for us, with the system we have had, we have been able to secure young outstanding men who are interested in the service, because every man that begins work with us knows that he is a potential division chief or deputy chief.

I might direct my finger on a number of Division Chiefs at this time. For instance, the Deputy Director worked himself up through the department. I was formerly a member of the Department and I am now the Director. Our Superintendent of Forestry and Parks was a ranger. Our Superintendent of Fisheries was a former hatchery man. There are only two that did not work themselves up from the bottom.

Now, in connection with our personnel, we have been accused of using drastic methods in our employment. For instance, any warden before getting into the Service has got to go through a pretty stiff mill. They give the examination for all state employees and I remember for this particular examination there was something like fifteen hundred candidates for the warden position. That is nothing unusual. There is one coming off again soon. When we got all through right down

to the number of men we accepted for permanent positions there were only nine.

Now, let's follow the course these men had to go. In the first place they must pass a severe physical examination; they must be between twenty-one and thirty years of age; they must weigh one hundred and sixty pounds and be five feet nine inches tall. That is all as far as their physical requirements are concerned. Then after they take the examination they are taken in with some older men, and let me say they are tried for a year before they are permanently appointed and confirmed by the Conservation Department of our State. During that year's time they are working with different men in our Service to find out their initiative.

From the twenty-four years I have experienced I have found that the locality that you assign to him can cause the temper of the locality to be either good or bad toward your organization. You show me an inefficient officer who can't handle a locality and you let me take another officer and put in that locality and I will change that from non-cooperative to cooperative groups because of the liking of that man. Now I know there is always somebody trying to get something on a warden, and unless he has the education, initiative, and judgment to combat these things in his particular community he never will succeed. That is why we try them definitely to find out if they have that before they are given the job. Now, as careful as we are we find that sometimes someone slips through.

The other day we had a happening in the Department. A man was passed by the physician as sound and he had been with us for just a short time and he died. I kind of wondered what that boy might have died from because he was perfectly well and good looking. The physician in charge had given him a clean bill of health, but when we checked back we found that he had had diabetes for six years. So that was the case for the physician when he knew better. I generally go over applicants for the Bureau of Personnel and we had a fine fellow come to us, and he kind of held his hand funny, and I says to him, "What is the matter down there?" and the arm was off right here, but the Doctors said that he was all right and physically clear.

Now at the last meeting of our Commission, they again passed a resolution that any officer that is up for appointment must have a physical examination by the doctors of the State Hospital of Wisconsin or General Hospital, so that we are going to know what is the matter with these fellows. There is a reason for this. These men lead a more or less hazardous life. If something happens to them the State has to pay the indemnity--$5,000 to his heirs; and, in case he has children, graduated up to 8 or 10,000 dollars. If he is blinded he might get up to $20,000. Under that condition we must have care.

I personally believe in young men out in the field. The older men have their place. There are many things our officers have to combat today, wherein they have to do many things. I was a Conservation Warden and Chief Warden for many years and I know that you can't pin a star on a man and make a warden out of him over night. I say that it takes five years to make a warden, and then he isn't going to know all about it. That is why we don't want to pick the wardens too old.

Anybody that secures employment, with the exception of day laborers, must be under Civil Service and he has a rating and he will be expected to give efficient service. For instance, Mr. Swift was a Forest Ranger, a warden, Assistant Superintendent of Game, and occupied other positions before he became Deputy Director. He had to take promotional examinations to show that he was qualified. I might cite, our former Superintendent of Education was formerly a school teacher and he took the wardens' examinations and he knew the business and so he was appointed as a warden. He went through the warden service before so he could learn the groundwork. He was graduated up to the position he occupied through promotional examinations. So, what I am trying to bring to point here is that you can build, as I see it in my experience, an efficient service or any other state service by training people in that service and keeping them in there year after year and promoting in accordance with their efficiency in the work that is assigned to them.

I have been mighty proud of our people in the operations. We are spending over two million dollars annually, in Conservation activity and if we didn't have trained people carrying on that administration work our public surely wouldn't back us the way they do, which is 100 per cent.

I am happy to say that the Bureau of Personnel, who works out these problems with us, have been very cooperative. With the assistance of Gray, Swift, and Devine to prepare questions for these examinations where it concerns us and I sincerely hope that nothing happens to upset this system in our state. We have our usual howling pack of wolves that would like to tear the inside right out of the organization but generally they don't come back the second time. Our people see that they don't. I think I have talked too long and so I am going to stop.

Mr. Hutton: I take it you give an oral examination along with the written.

Mr. MacKenzie: The written tests are given first to determine any basic knowledge. The oral tests and the recognition tests enter into the final rating and then they weed out with their written test those that don't know a thing about the work. They are the people that write examinations whenever an examination comes along. Out of 1500 you will eliminate half of them and then follow that with an oral and then by recognition.

Question: Does the retirement fund apply to all positions?

Mr. MacKenzie: It only applies to Conservation Wardens. For five sessions of the legislature I endeavored to get a retirement fund for the warden and the fifth session after I became Director we were able to put it over, with scarcely any opposition. The wardens pay 3 per cent of their salary monthly and half of the confiscations and all of the fees that they secure in making arrests, etc., all go into this so called Warden Pension Retirement Fund.

I drafted the law myself and arranged it so that the Wardens would

control the Board and they make all decisions and who shall be retired. They are given very broad powers. It has been in force since 1935. We have been asked to retire about eighteen men and a couple also died in the Service, and altogether it has worked out very satisfactory. I am going to say, frankly, to prepare that bill, the fact of the matter is, I couldn't afford to hire an actuary but the Commissioner of Insurance told me the law was workable and today besides paying out all our officers there is something over $70,000.

Question: What is the age of retirement?

Mr. MacKenzie: If a man serves twenty years he can retire.

Mr. Bode: Missouri does not have a Civil Service law. It is modified Civil Service in the Conservation Commission but the State does not have a Civil Service Law.

Mr. Hutton: Do any of the states have a rating system of their employees so that they can recommend for advancement?

Mr. MacKenzie: We have a regular rating system. We follow the course of every employee throughout the year. We have a personnel officer within the Department and the Deputy Director follows that quite closely, acting as a sort of supervisor and during the course of the year we get a pretty good line on our employees.

Mr. O'Connell: In Nebraska we have a modified, not as much in detail.

Mr. Hutton: What percentage does the oral examination compare with the written examination?

Mr. MacKenzie: Well, the tests are fifty-fifty. The recognition test and the oral test is 50 per cent. Sometimes the Bureau of Personnel makes different ratings, depending on just exactly how many candidates are taking it, but most of all it is on the basis of fifty-fifty.

CONSERVATION PUBLICITY

Mr. Hutton: Conservation Publicity is next on the program. We want to find out just what our objects in Conservation Publicity are. It is a subject that is very important and should not have come in the end of the day, but we will have to take it as it comes. This will be presented by Mr. Robert Wheeler of Iowa.

Mr. Wheeler: Mr. Chairman and members of the Midwest Game and Fish Commission. I see that I have been delegated to talk on the subject of Conservation Publicity. If you will pardon it, I don't like to refer to it as Publicity but as Education of Conservation.

I think that there is a very great need for more information in the field of Conservation, and I know that as each year passes that every state

Department is venturing farther and farther into this field in a variety of ways.

I think I will just give it a once over, lightly, in the way of Conservation Education and information that we are doing. Last fall the second annual Conference of Publicity Writers met at Bennet Springs State Park, Missouri and Conservation writers from various states came to discuss their various problems and possibly some of the things that they could work toward as a group. I will try to give you an idea of what some of the States are doing, some of the major accomplishments and what the trends are in the way of Education.

Well, first to just outline the various media that are available for such work. Lectures and talks is a media that is used very much and is used by practically every state. Some States have gone so far as to hire full-time lecturers to talk to the sportsmen's Service Clubs and other organizations. All of the states are accustomed to furnishing experts from their office force or from their field force. Divisional Aid is another media that has come to the front, especially mainly movies and slides. Both of these have their use and the relative merit of movies and slides, of course, is a matter of the situation that you are working in.

The providing of Exhibit Material is another very important field. It not only has the effect of getting people interested in Conservation through your exhibits but it provides a nice starting place for the dissemination of a lot of other information.

Conservation Magazines is a relatively new development that has its place in the field and I will explain that a little later. Then, of course, there is the radio. The Women's Clubs is another media that has been used quite extensively by some states, and of course schools and youth groups. This is a most fertile field for this type of work.

Now, to get down a little more to brass tacks. No straight lecture without illustration will have much effect on the public. Most of the states feel that plan is just going "helter-skelter." Wherever a lecture is wanted they try to hit the group where the information will do the most good and most of the states in the last year or so have been following a plan whereby they would go into a community for the day and hit several groups for that day. Usually, a Service Club asks for the program at noon. Some other organization asks for the afternoon, perhaps a Women's Club--schools in the morning and then a Sportsmen's Club or similar organization in the evening. These consist mostly of movies and slides. Some of those who have done work with the movies have gone into it on a rather elaborate scale. Take the state of Pennsylvania, which has been the leader, went into the film loan library field rather extensively and a lot of states have followed them and have experienced difficulty with them. I talked, last year, with Mr. Luckringer of the Pennsylvania Commission and he said that the Film Loan Library sounds pretty good but actually they had a lot of difficulty with it and we have had difficulty with it in the work we have gone

into even on a much smaller scale.

The trouble with that type of media, you don't get the personal contact when you just send out a film. Then too, Pennsylvania and Michigan found out that as they sent out these films through these Film Loan Libraries that they got a great deal of breakage, and so they decided that eventually there were better methods of handling this. Pennsylvania, I know, has set up seven districts in their state, presided over by District Officers that are responsible for education activity within their district. In these ways the district can take the films out themselves or send someone from the Department along to give a bit of a Conservation message along with it, and this friendly personal talk adds a great deal to the effectiveness of any individual aid that they might furnish.

All the states agree that the silent movie is probably the best. It is a much cheaper form of movie to make. Of course, with the movie we send out a lecturer to give a better and more detailed information on the subject of Conservation.

Here in Iowa we found that probably the illustrated lecture, using the slides is a better and more effective plan, as far as getting across the necessary knowledge of Conservation. A great many other states have come to that conclusion. We have found that when you try to talk along with the silent movie you don't always have coordination. There is a variety of audiences and you have to change the methods of approach. You can't use the same method when talking to a school group as you can to a Sportsmen's group or a Women's organization. That is the chief difficulty with these silent movies.

We like the slide method especially the colored slide, due to the fact that it is very adaptable. You can pick and close your slides to fit your individual liking. You can hold a certain slide on the screen to elaborate on that phase. It is a lot more adaptable than the movie. I believe that a good Slide Lecture of about fifty slides can be built up cheaper in cost than a movie would cost for the same amount of time.

Now the subject of Exhibits. There are two types; the traveling exhibit and the other type of exhibit which would be at State Fairs, Sportsmen's Shows and things of that nature.

Pennsylvania did have a traveling exhibit for quite a few years. They went into it quite extensively but they were forced, ultimately, to give it up. They ran into a snag in that too much political pressure was put on. When they sent out anybody they found that they went to the place where the most political pressure came from, and then, too, the exhibit was sometimes held in various places where there was a great deal of pressure. Michigan has gone rather extensively into that traveling exhibit. They have a large trailor with their exhibits on it. They carry a loud speaking unit and several reels of films and their projectors and their exhibits. It is about 120 feet long when they get it put up. They haven't run into the political pressure that Pennsylvania did.

The Exhibit is a good place to utilize your various aids. You can dis-

tribute literature, you can contact school children. You can get them a little more interested in the field of Conservation, and, of course, your movies and slides can be utilized to a very good advantage in an exhibit.

Exhibits have the further value, I believe, of giving a personal touch to the thing. People come out and see several representatives of the Department. They talk with them; they see what you are doing; they just feel different than they did before.

Now news releases are about the most economical form of educational form of educational information. The Editor doesn't want propaganda, though. He doesn't want things crammed into his paper that are not so, because there are too many agencies that are disseminating propaganda and a lot of it is thrown into the waste basket unless he happens to be very much on your side and very cooperative. I think the newspaper has the value of economy because there is one in every good sized community and every citizen is interested in his newspaper and it is very valuable to get everything that you can in the newspaper. Now, in the five thousand newspapers in the state, if we don't get into just a tenth of them we still reach quite a large number of people.

Now, in regard to the Conservation Magazine. I believe the Conservation Magazine fits into the picture in this way. You can reach the people that are more interested than the normal person is. We have a mailing list of persons who are probably pretty actively interested in Sportsmen's organizations and some other connection with your organization. It is this type of person who reads the Conservation Magazine and so the copy can be fitted to that type of audience. You can explain a bit more fully, you can tell your program better, you can give a few reasons what you are doing, you can outline your prospective program. In short, you can put in the Conservation Magazine those things which you sent to the newspaper editor and he merely looked at them and wouldn't print it. In my estimation, the Conservation Magazine gives us a chance to give deserving persons and agencies a pat on the back. If some sportsmen's group has carried something out; if they constructed a rearing pond or something of that nature, it makes them feel very good from the write up. They are compelled to go out and do a bit more. Then too, Conservation Magazines are a good clearing house for ideas. I mean other Sportsmen's Organizations might see the projects that another organization has carried out and get the Conservation "bug" a bit more and probably carry out a bit more active program than they had been carrying on.

Now, the subject of radio. Very many states are going into this very extensively. Michigan and Pennsylvania have, perhaps, been the leaders. Both of these states supply a mimeographed script to a dozen or fifteen radio stations. These scripts aren't personalized. They are all the same thing. They send them out to various stations and if they are interested to put them on, all well and good, and if they don't it's all right, too. The news and interview type of radio program seems to be the most popular in the states that are working with radio. That is where you interview a member of the Department

for about five or ten minutes and spend the rest of the time giving a brief resume of the Conservation news in your state. During the fishing season telling of the excellent catches of fish, the stream conditions, service for fishermen and things of that nature. The radio stations have cooperated with Conservation of most of the states very well. It is more or less an emergency type of broadcast.

The State of Michigan has been very fortunate in getting the cooperation of radio stations in carrying out their fire prevention campaigns and, especially, during the times of forest fires when an emergency existed. In our own state we have utilized radio in getting across Conservation to the Sportsmen. Last fall we conducted a more or less campaign to get sportsmen to cooperate with farmers on the hunting problem. This was more or less of a buildup for the hunting season.

Michigan is the only state, I believe, that employs a woman who does nothing but go around to the various Women's Clubs in the State of Michigan. This lady helps them set up Conservation programs in their Club and goes out and lectures to the group and aids them in just any way that they might want.

Now, the schools and Youth groups, I saved them for the last because I think it is the most fertile field that we have. Young people are receptive to new ideas and they don't have some of the prejudice that older people have. Those of you who have dealt with them know that no matter how wrong they are you can't convince them that they are wrong and a great deal of education may be done through young people, due to the fact that they don't have these prejudices. I think the young people are the logical approach. Have you ever noticed the radio in appealing to the youngsters early in the evening, and I don't see any reason why the young people, the schools and the youth groups, aren't the logical method to try to get across the necessary knowledge of Conservation. Some of the states have gone so far as to offer teaching aids to schools. I believe Wisconsin has, within the last couple of months, inaugurated some method of supplying teaching aids and maybe Mr. MacKenzie can give us some light on this in the discussion.

Well, I believe that is all I have on the subject of Conservation and Education.

Mr. Hutton: We will have the discussion now, led by Mr. Lynch.

Mr. Lynch: Well, in Illinois, prior to the last session of the legislature we did not have any appropriation but the 1939 session appropriated $24,000 a year. We have at the present time, in Illinois, a Director of Publicity and Relations, and an Assistant Director of Public Relations and we have two men who not only have movies but give displays to Clubs throughout the State.

We also have displays at the State Fairs. These displays are put on the Superintendent of Fish and Superintendent of Fish Culture.

Our Director of Public Relations is always in touch with the newspaper reporters. In addition to that when we do have something that we want to

get out to the general public it goes to the AP and the UP. We find the money we are using in publicity has been well spent. We also get out a Magazine, called "Illinois Conservation" which is published about three or four times a year. In that Magazine we tell sportsmen how we are spending their money, the progress which we are making and we try to make it a "newsy" Magazine.

We are just pioneering in the movement and we'd like to know something more about Publicity. In other words, what the other states are doing. The money we have spent we have had wonderful returns from and it is our intention at the next session of the legislature to ask for a $100,000 appropriation.

We had difficulty in getting a man to head the Department, but we did finally locate a man who had been writing Conservation Bulletins and been interested in Conservation for two or three years. In our lectures we all went out and we sent experts where experts were wanted. But, we found that the demand was so great for the experts that we had to cut down the speaking engagements and ask for sportsmen so that they could cut down on traveling expenses. You take all these Sportsmen's Clubs, Lions' Clubs, they all want experts and we have got now in Illinois a better feeling toward the Department. We don't only have a friendly relation among the sportsmen but among all the people in Illinois.

Mr. Hutton: I would like to hear from some of the others.

Mr. Bode: Mr. Chairman, about a year ago I started to take some slides and worked up quite a number of them. I started to show them instead of the movies to various groups. Our men also did and I found that we were able to put it more across with the slides than with the movies, although the reaction at the present time indicates the movies give the best as far as putting the idea of various phases of Conservation across.

I think there is a lot to say for the kodachrome slide. Mine cost me fifteen cents and with the mounting and all about twenty cents and you can project on a screen generally ten by twelve feet. Passing into the motion pictures, I am just wondering if we are going to get the result we want.

Remark: Kodachrome especially made a big improvement. The colors come through pretty good. I think there is something there.

Mrs. Parker: I'd like to endorse this. I think we have done enough in the entertainment end and should give them more along the line of education. We need to go back to a real program of education and rather technical education. People understand what Conservation is now and they are becoming genuinely interested in the technical lecture.

I did want to mention also, that Mr. Lynch did not mention that the wonderful bulletin that Illinois is putting out is certainly won-

derful and charming. It is a very brief and thin pamphlet, descriptive of each park and one may have a separate bit of information about each park or area. I think Indiana has one along this line also, but it is only on black and white. Each has a development map of the area on the back, descriptive text, so that when one is visiting in a larger area it is quite easy to find one's way around.

As far as Publicity or, as Mr. Wheeler calls it, Education, I wish we might be able to print this type of Bulletin.

Mr. Hutton: How about Minnesota?

Mr. Towrson: Well, Minnesota has had the Conservation Department sponsor it. We are just reorganizing again but the Game and Fish Division uses and pays for approximately 80 per cent of the facilities. Now, the Game and Fish Division receives no legislative appropriation. The remaining 20 per cent is borne by the other Divisions of the Department that are supported by legislative appropriations.

Our tourist bureau does not include the function of Education, Minnesota, I might add, is experimenting with the different activities that the gentleman from Iowa mentioned. Our magazine went on the "rocks"but we are trying to revive it and we also are thinking that would be more or less of a popular magazine. We are also considering a quarterly, technical bulletin. We are trying to develop the Minnesota Network to bring them to the public. The News Resleases go directly to all the newspapers in the state.

Mr. Hutton: How about Nebraska?

Mr. O'Connell: We are now using sound camera film and quite effectively. The film we are now producing for next year will be purely the activity of our Department, taking in some of the technical angles and made into an interesting presentation. We are using the News Releases. We only send to those who have requested. We have a magazine with a 10,000 circulation. We use some exhibits at our State Fair and other large groups over the state. We have, every year, conservation camps. We find that it is very effective and different groups who have done something particularly interesting in Conservation have their way paid. We have a Bulletin for 4-H Clubs and for schools a Pictorial Map which we publish over the country and then we have several wardens that have mounted birds.

South Dakota: All our funds are put in a separate game fund. The Legislature has nothing to do with it. The Commission makes their own budget. They have been a little stingy as far as publicity is concerned. Looking over some of the last budgets, it may be we can get a little more out of them. Last year we got out a Conservation Digest, that is sent out gratis. We have about three thousand circulation and we could increase that easily. That goes out to all the public libraries in the state, every public school, besides a number of Sportsmen's Clubs and various agencies.

We have a number of films from the Department of Agriculture. We have four projectors, distributed to wardens which are constantly on the go, especially, in the winter time and spring. I think the newspaper is the best and cheapest. We have right in the State Capital the AP men coming into the office looking for news, and we have a state publicity which goes out to our weeklies.

We make exhibits for State Fairs and various conventions. I would like to ask any of the states here, if they have taken on that new radio program. It is a transcribed program and it gives the local Department about two minutes on the end of the program.

Mr. Hutton: Do you still have traveling exhibits?

South Dakota: No, we discontinued that lately. We ran into difficulty at County Fairs and they all wanted it and there was so much turmoil that it was rather expensive.

Mr. Swift: The value was brought to me recently of a tour of the state and show them some of our Conservation Department development and we went a step further and took a movie film with Women right in them as we visited them in the various Clubs. It was quite effective as we went to about 20,000 women and the fact that they are right in it has made it very impressive and educational. It has brought home to them that they are right in the picture of conservation.

Now, what started me on this "show me" idea was a communication which I got from a certain source that one of our Congressman was going to vote against some pretty beneficial legislation for the forestry. After contacting him he didn't know that we owned any forest land. As a matter of fact we have 188,000 acres and he was within a hundred miles of it. So I thought of the idea of taking various key individuals of Sportsmen's Clubs, various groups, and legislators to show what we are doing. In this case it was a Congressman.

Kansas: Well, we don't have any special appropriation at all. The Conservation Commission receives its money by an appropriation made to the Park Board. We budget a certain amount for our Education and that is the way we carry it.

Mr. Lynch: I might clarify by saying that the Conservation Department does not have charge of the Parks and they also have an appropriation of $250,000 to advertise the State of Illinois.

Mr. Hutton: Well, if there are no further remarks, we will adjourn until tomorrow morning, and remember at 8:00 o'clock sharp.

RECESS

TUESDAY MORNING, JUNE 18, 1940

THE CONSERVATION WARDEN--HIS TRAINING AND DUTIES

Mr. Hutton: The first thing we have today is "The Conservation Warden--His Training and Duties," to be presented by Mr. Swift of Wisconsin.

Mr. Swift: I didn't realize, yesterday, when they got into this matter of Civil Service that they were going to get off the track and to the training of personnel. A little of my "thunder" has been stolen. Part of what I am going to say I had written down so that I wouldn't repeat myself too much.

I don't know whether you will entirely agree with me on this. You may possibly feel that I have over-emphasized the training of the Conservation Warden and duties and the part he plays in the conservation picture. On the other hand I feel, sometimes, that if you are going to put something across it is necessary to overemphasize a thing. The things that I speak of are also applicable to the other Personnel Departments and because I speak of the warden, mine doesn't mean that some of the things I said are not in a measure applicable to the other types of personnel.

The conservation of natural resources has developed around the police powers of the state and by police powers, I mean the authority of the state to preserve, protect and regulate the use of its resources. This jurisdiction not only extends to the control of resources owned by the commonwealth, but resources owned by the individual. It not only extends to game and fish in the wild, but to game and fish in captivity, to the use of fire by private property owners on their own land, to the disposal of slash after timber cutting operations on private land, to common carriers and the devices used for protecting the countryside from fire through the operations of railroads, trucks, and other vehicles, to the impounding of water or drainage of water areas, to the disposal of sewage in public waters, and most recently to erosion control.

We can hardly call police powers fundamental. The thought is generally accepted that one of the fundamental precepts of conservation is the saving of soil and water and that sound land use should be the first concern of any state. However, this cannot be accomplished without the accompanying police powers which a state must exercise in carrying out its trust and responsibilities.

In the minds of most people thinking along lines of conservation, the word police power, better known as law enforcement, refers principally to the enforcement of game laws and although it is of the conservation warden I wish to speak, and his multiplicity of duties, I trust that it will be noted here that the general police powers of the state form a bulwark and background for all conservation activities.

True conservationists recognize police powers and their associated value to a conservation program. A small minority grudgingly admit it has sustained to a large measure our game resources and look upon it in the light of a necessary evil. The public reaction and their viewpoint, however, many

times is indicative of the judgment that a field officer has used in carrying out his duties. In other words, a community's attitude towards law enforcement may be good or bad in proportion to the sound judgment that a field man has used in promoting it.

Speaking strictly in terms of the conservation warden as a field officer in enforcing general conservation laws and his other attendant duties, some of the intelligentsia of modern conservation programs will infer that he is a hold-over from the horse-and-buggy days, that his usefulness is lessened and will still contract in importance if his fields are not broadened. The duties of the conservation warden and their responsibility have broadened greatly, at least in Wisconsin, into phases of game management, cooperation in fire suppression, fisheries work, and so forth, and it would be foolish to say that law enforcement will ever be, or ever has been a substitute for game production, refuges, fish hatcheries, forest nurseries, or fire suppression. Nevertheless, his job as an enforcement officer is a keystone to the whole structure of conservation and if he were to be eliminated, the whole structure would fall and most of our states, in addition to having their resources destroyed, would be without finances.

So long as there were virgin forests to cut, a plentiful supply of game to hunt and fish to catch, so long as there was free government land to have for the asking, no one advocated the spending of public money to save the forests, the fish, the game and the soil. The beginnings of conservation, in large measure, had their commencement in the social aspects, with a desire of people to save game for recreation. Generally, the economic structure was visualized later. Nevertheless, in the desire for people to save fish and game, the present method of regulation was devised and perfected.

In many respects, the work of the enforcement officer--and in speaking of the enforcement officer, I mean a man of intelligence and with all the necessary capabilities and attributes to carry on the duties of such an office as they should be--is more apt to be misunderstood than that of any other division of conservation. Law enforcement is one of the most technical administrative problems that a conservation department has to deal with. If carried on successfully, it requires more judgment, tact, firmness, vision than any other branch. It is the least understood and talked about the most. It brings more explosive criticism and bitter comment than any other activity. It is probably the most controversial of all conservation activities. Conservation in the abstract can generally be discussed without too much disagreement, but when applied to enforcement, it will bring forth many arguments.

Game management men have birds and animals to distribute for the benefit of the public; fisheries men raise fish for distribution in lakes and streams; but when the conservation warden is enforcing the laws he has a strictly negative job--that of keeping human beings within certain legal confines. I believe the enforcement of laws of any kind is a serious matter. The general attitude toward law, right or wrong, is that they are a curtailment of liberties and

vesting in a human being the power to take away the liberty of another is indeed a serious matter.

The public will forgive a ranger for poor judgment, at least occasionally, in his handling of a fire, especially if his sincerity is beyond question. They will give the man raising pheasants for the state the benefit of the doubt if he has poor luck with his pheasants and they are hit by disease. The same is applicable to the man raising fish. But let a conservation warden make a false arrest and very likely he will be brought into court by the irate citizen whom he arrested and will suffer the penalty of poor judgment, regardless of his integrity and sincerity. In theorizing, it is said that this cannot be done unless maliciousness can be proven; in practice, this definition has not held in the courts.

Very few wardens who have worked over a period of years have not at some time or another been hailed into court on some pretext or another for attempting to protect the interests of the state and uphold the dignity of its sovereignty. The reason for this is that the enforcement officer has placed a citizen's liberty in jeopardy, whereas the raiser of fish and game or the forester in suppressing a fire, in spite of his poor judgment has not assumed the responsibility of taking another man's liberty away from him.

For the reasons stated, it is my judgment that careful consideration should be given in choosing a conservation warden and not only from the angles of enforcement, but for the other field duties which he is now forced to assume. In Wisconsin, the conservation warden enforces all conservation laws pertaining to game, fire, trespass on state lands. In times of high hazard, he actively participates in fire suppression. He supervises the planting of all fish and is schooled by the department in this phase of the work. He supervises the distribution of pheasants, raccoon and other game from the state game farm. To date, he is the liaison officer for the game division in making field surveys on populations, food and cover, and all the related problems that arise because of the necessity of game management.

He makes recommendations to the department on the type of regulation he feels should be put into effect; he calls meetings for the election of the state conservation committees and congress now operating in Wisconsin; he is a collector of specimens for the pathologist; he takes charge of winter feeding; he assists in the trapping of beaver, deer and wild birds where they are doing damage or for specimens; he may be called on to carry on predator control; he must act as a lecturer for schools and community groups of all kinds which are interested in conservation; he is called on to cooperate with other state departments and federal agencies; he recommends and helps establish game refuges; he is the recipient of a majority of the complaints by citizens that reach the main office. Generally, more than any member of the conservation department, he knows the pulse of the people, is acquainted with their idiosyncrasies and mode of living, their background, their prejudices and their virtues.

Whereas ten or fifteen years ago the warden enforced the law 80 per cent of his time, today more than half his time is spent on those things mentioned which expanded programs have forced upon him.

In choosing enforcement officers, the following requisites should be looked for: youth (from 21 to 30); intelligence and education (high school or equivalent and college provided they meet other requirements); an absolutely sound physique; initiative; and last but certainly not least, honesty. In addition to all of these qualifications, a man to be a good enforcement officer and field man must make the work his religion. His past experience in enterprises associated with the type of work he is entering, not so much enforcement, but conservation, is important but if men are taken young enough and trained under supervisors, a world of experience is not necessary.

The work of the conservation warden in many respects makes him a lone wolf. He is on his own, where he must make his own decisions and in a measure prosecute his own program. It is up to him to make a success. In some respects, he has more free rein than other types of workers in conservation. On the other hand, the very type of work he pursues restricts his actions more than it does many others. In spite of all the attributes we look for in a conservation warden, he will be a failure unless he can acquire or has, that indefinable quality which makes him a judge of human nature. If he does not have that sixth sense which is a capability of determining people's motives, if he is not a strategist and a tactician--to use an illustration, if he has not the finesse of a successful poker player, he will never be able to cope with the multitudes.

You may be of the opinion that I am seeking qualifications impossible to find. Naturally, you will find some men stronger in some of these qualifications than they are in others, but if the bars are not let down and careful selection is made, more of these qualities can be found.

It happens that our state is divided into three areas, so far as the Conservation Wardens are concerned in enforcement. They have a supervisor and these supervisors periodically carry on schools in their own area, and the chief warden gives them common problems. In this way the whole group does not have to be called together at some central point in the State, but they can be broken up into smaller groups and we find it worthwhile. For instance, the men carry on Commercial Fishing Activity to the Great Lakes. It is more or less specialized. They meet and discuss their problems. In addition, they have problems of enforcement inland but most of the other wardens inland don't have the Great Lakes Problem. The men in the North have the problem of deer "shiners" and hunting, beaver trapping and beaver runners where the man in the South doesn't have those problems and although we like to have our men have a general picture and idea, still it takes a long time to teach any man all the various activity and angles of enforcement, even in one state.

We also have them supervise the fish plan in their own counties. In this activity they meet with the Biology Division and Fisheries Division and between the three of them they go over the lakes and the biology and gives his report as to what he has found the past year, and although it isn't perfect it is a combined effort of three

divisions to make an equitable fish plan. The responsibility of the distribution and administration of getting those fish out of the hatchery rests with the warden. The fisheries man ceases after he has raised the fish.

In central Wisconsin and northern Wisconsin the warden at various times of the year, at high hazard, may have to spend a great deal in fire prevention. It depends on what the necessity is.

Now, I would like to see the Conservation Warden enter more into the Game Management field. I think that he has to enter that field to be abreast of the times; although, possibly, he will never be considered a Game Manager, yet I believe that the warden has some angles to the Game Management proposition. Whether you believe me or not, I feel in dealing with game and fish so far as the public view there is one cycle for it--from the field and stream to the frying pan. That is the cycle of game.

Although you can make observations on what your game loads and how it should be taken care of and those things are necessary, you can't always put theories into practice and many times it's a compromise as to what you'd like to put into practice and what you can actually put in practice. I believe that in making recommendations the warden has a definite place. You can promote a fine theory on hunting regulations but maybe the enforcers can tell you whether they are workable and that to some extent is the proof of the pudding. That doesn't mean that you can't keep that vision but ultimately you can get closer to perfection in making relations.

There is just one thing more that I want to bring up in this matter of Conservation Warden. At various times of the year, especially in deer season or in the spring we put a great many of our personnel temporarily under supervision of the regular warden. Now, in deer season, last year we had 110,000 deer hunters. That takes a great many men if you are going to adaquately cover the country at all. For the good of the Department we put the Rangers under supervision of the Warden, the Biologists, the men from the Game Farm and Fisheries men and that brings them close to the problem from another angle that they have never sensed themselves. For example, one of the Biologists put on two years ago in law enforcement for a period of two weeks and another young fellow seized a deer that the Biologist said was killed before the season. It was the first or second day and the deer was old and so they arrested. The other side hired an attorney and they found out that this man's job was as a biologist. He commenced to call him a "tin horned scientist" on the witness stand. That young fellow hasn't gotten over it to this day and he wouldn't have appreciated it if he hadn't faced the facts himself. That was an insult but it is that kind of thing that teaches them to take it on the chin and those fellows begin to appreciate just what a stiff proposition it is to meet and handle the public.

If they never are associated directly with some of those kinds of problems, which are stiff ones, they never appreciate the warden's angle. Furthermore, they begin to appreciate where the money comes from that pays their salary and that is an angle of the enforcement officers' job; nevertheless, if it wasn't for him the revenues to any of these states would not be coming in.

I thank you, gentlemen.

Mr. Hutton: Mr. Swift brought out some very interesting items. Next, we will have the discussion by Mr. Roberts of Missouri.

Mr. Roberts: The President recently linked Wisconsin and Missouri in the announcement of two battleships that were being built with those names. After hearing Mr. Swift's excellent paper I feel like Missouri's contribution to this program might be compared in the nature of a canoe against the 45-thousand ton battleship we have presented.

We Missourians are novices, more or less, in this program. One of the gentlemen from Wisconsin referred to twenty-five years of service in Conservation. Well, we have been in the field, strictly speaking, only about three years. What definite program is consequently our experience is relatively small as compared to our companion state of Wisconsin.

I happen to be Chief of Protection Division and, naturally, any remarks I make in behalf of Conservation might be considered prejudicial. I think Mr. Swift has convinced you gentlemen, as Administrators, of need of the protection field. I hope that all administrators might look upon the officers of the protection division, the conservation wardens, as the real key men in the organization. I think he has emphasized it much more strongly than I can. If you'd permit me, in just a few minutes, to give you just a little report of what is going on in Missouri in that nature of training and of conservation agents, I'd appreciate it.

It was brought out yesterday by Mr. Bode that our plan of selection is a modified Civil Service and based upon the Merit System entirely. The first examination brought in 750 candidates. Those men were assured that, if employed, they would be employed on the Merit System. They would hold their jobs entirely upon their merit. During the interviews they were asked no questions about their politics or religion. We believe that the men who have been selected, incidentally we have only forty-seven full-time agents, but we believe that those forty-seven men have been doing a bang-up job. If it takes statistics to prove that statement I might say that that in 1938, the first year these men were in, there were approximately 1400 cases. This was a 30 per cent increase, yet we don't mean that there was an increase in violations. These men secured public cooperation in their locality or community, thereby we are more efficient in checking the violator. After the selection these men have been put through a training. We have had two training conferences during the past two years.

In those conferences, however, half of the men were brought in for an intensive program for a week and then sent home. Then the other half were brought in, given the same program. Just about a year ago we put our men in uniform. There was a lot of reaction to that procedure —some favorable and some unfavorable. It is such a distinct uniform that you could recognize it before he caught up with you, and you wouldn't expect to see him in it because a considerable amount of his job is done in plain clothes. Their duties and responsibilities as have been

emphasized very clearly, have been increasing from year to year. We have noticed in Missouri, in just a little over two years, the responsibilities placed upon the Conservation Agent are increasing. The various things that Mr. Swift mentioned as being responsibilities of Conservation Wardens are fairly accurate for Missouri.

I believe I would go so far as saying that every field project of the Missouri Conservation Commission, eventually, falls into the lap of the Conservation Agent and becomes his responsibility in that particular territory. I think that is the way it should be, and I think as our men get more trained and experienced they are doing the job satisfactory to the Commission.

We boiled it down to one problem and I'd solicit your careful attention to a study of relative values. I think you will find your answer to that question in the manner in which you set up your budget. If your protection division, your wardens' service gets only a relatively small part of your general revenue I think that is a criterion. I think we in Missouri are coming to the point where the warden service is being recognized as a single part of the entire program. Without it, Mr. Swift says the whole system will break down.

Mr. Hutton: Well, this is an important subject and the first thing this morning; so there ought to be a considerable amount of discussion and I'd like to hear from anybody else.

Mr. Bode: I'd like to ask Mr. Swift if all their men are assigned equal territory.

Mr. Swift: It isn't entirely equal, Mr. Bode, due to the type of country. We have about eighty regular wardens now and we have sixty-five thousand square miles. We haven't got enough wardens. In addition to that, of course, in northern Wisconsin we have quite a number of Rangers and even though they are concerned primarily with their own job still they are very valuable to enforcement. We try to break down the line of division between those fellows so that if a warden sees a fire or a ranger sees a violation he doesn't pass it up but still they have got to, within reason, prosecute their own job. The ranger doesn't go into Game Management or any of those aspects, as a law enforcement officer it is purely incidental.

Mr. Bode: Well, is each of your men assigned to a territory?

Mr. Swift: Yes, there are one or two counties that don't have wardens. We have seventy-one counties and we have, where the activity is great sometimes two or three wardens, especially in northern Wisconsin where there is an influx of tourists. A warden isn't confined to county lines but his responsibility rests primarily within his county, but if he knows of some that is going on beyond the limitations of his own area, why he can immediately go over and look into it if it is something that hasn't been taken care of.

Question: Well, do you have anything in the way of a "Flying Squadron" that is, a small group of men that are free to go here and there?

Mr. Swift: Periodically, but not enough in this modern age of modern transportation. The radio and the "Flying Squadron" is going to be the answer to enforcement of Conservation.

Like the illegal running of furs and venison in Wisconsin. I believe that it is coming to this: That the warden in the county will have to take care of a general mill-run of duties, you might say and yet where we get into that intensive activity of enforcement where you are competing with commercialism and regular gangsters that you have got to have a "Flying Squadron." They have no latitude to their range. They can go any place, because if you are going to cope with that type of gangs you have got to follow them just like the G Mon and the average public isn't aware of the existence of such types of activity. They will have a head or relationship out of the state. You take during the prohibition days one of the biggest problems we had was the illegal liquor coming into the state and being traded for furs and venison. At its source it was cheap venison and the beaver were cheap at their source but they traded. The man that got the beaver got a big price. It was in '32 they were running liquor into the state with machine guns guarding them with the same gangs, and that is true in Minnesota, it may be in your state but the general public isn't acquainted with those things. They don't appreciate that type of activity.

Mr. Bode: What percentage of your total departmental expenditure goes into your protection division?

Mr. Swift: Not enough to suit me. We have two sources. One is a mill tax from forestry and the other is from licenses and the license receipts pay for all game and fish activity. A little less than a fourth of that goes for enforcing.

I think, gentlemen, that the radio is going to be a major picture in the matter of enforcement. We are practicing it in the fire prevention, but I forget what agency at Washington controls it. There is a national radio commission. They won't let us use these radios for law enforcement. We have got to have a different setup.

Mr. O'Connell: Do you have any flying squadrons now?

Mr. Swift: Seasonally, we do. You take our beaver runners and the illegal beaver season. That squad should start out in September to line up these fellows. They have got to know what goes on in Michigan and Minnesota if they are going to catch these fellows because state boundaries don't mean a thing to illegal fur runners and it is just a matter of keeping up with the times and meeting the situation. As far as our enforcement agencies in this respect we are in the "horse and buggy days." We have got to keep ahead of the parade instead of behind.

Mr. Hutton: Mr. Swift, do you work together with the Road Patrol and the Sheriff's Office?

Mr. Swift: That is a funny thing. That goes county by county. We

have the sheriff system in the southern half of Wisconsin where they are using their radios for cooperating. In the northern part where a great share of our game is and where they should be primarily interested, why the other side gets the help.

Mr. Hutton: I think that is the way other places, depending upon the personnel of sheriffs. If he is interested, he works with you and if he isn't he sometimes works the other way.

Question: Could you give peace officers credentials to any employee of the Commission, or are you restricted as to that?

Mr. Swift: Yes, we can offer them credentials, injecting them into the enforcement department. Definitely, then, the bureau personnel would check us on that and make the man take an examination, but they will allow us for temporary use as we see fit, but they won't do it if they feel that the man is spending his whole time with the law enforcement.

Mr. Bode: What percent of the appropriation went into law enforcement?

Mr. Swift: Slightly less than a fourth.

Mr. Bode: On your examinations, do you give them a practical examination?

Mr. Swift: You mean in field work, I presume. They work two six month periods before they prove themselves in the field. They have to work this time before they are given permanent appointment. They may split up their time but they have to work a year. We give them one period and then in the fall we pick them up again.

Mr. Hutton: I'd like to ask if either Missouri or Wisconsin have District Meetings and at regular intervals?

Missouri: Missouri has meetings at irregular intervals.

Mr. Hutton: Do you regard it as important?

Mr. Bode: Yes, the supervisor conducts them.

Mr. Hutton: I'd like to ask this group, how many have thought about "flying squadrons." I think that is one of the things that has got to be promoted if you are going to get any results.

Mr. Towrson: Well, Minnesota has been using it for the last year seasonally, and we have put out at times before seasons, within a month or so before season, when violations are considerably more about three squads of two men each, working together and in contact with each other. They have routes all planned out which they follow and they go into these areas and just flood a particular district with wardens for a short time and then they move on--here, there and everywhere. It was sort of funny in one situation, when a man remarked that he never thought there were so many wardens in the world.

It was very effective. They affected more apprehension with their three squads than any other fifteen men on the force. It is a little more expensive as far as traveling is concerned.

Mr. O'Connell: We have been using the Federal Warden with our own men. We always use a crew or squadron on our river work. We have had an undercover agent working last year with considerable success. He went from one district to the other. He made twenty-five arrests in thirty days and when he got around to all the districts and made all these arrests the wardens didn't feel so bad. I think that is a very effective means of solving a lot of these problems. We only wish we had several more like this chap, but I think the flying squadron will save money in law enforcement and will help a lot in part of the states where you have certain problems.

Mr. Hutton: Wouldn't you have to change that personnel from time to time?

Mr. O'Connell: Yes, it will wear out eventually.

Mr. Lynch: Because we are going into Civil Service in about two months, the legislature passed a law where a provision is made that when a personnel is changed, he must be given 60 days notice.

I remember when Illinois had one car and about six men and the Secretary didn't know where they were and you could buy anything you wanted on the market. We started from scratch. I can tell you the experiences since I have been in the Illinois Conservation Department.

Today we have in the Department 133 wardens in one hundred and some counties and cover the Chicago district. We work very closely with the Federal Wardens during the season. We put out a squad in addition to that when the pheasant season is on or any special season.

We have put out from two to three squads and we have worked them night and day. We have put them throughout the state and the result was not only to our revenues but our violations went down.

We have stringent laws protecting the incoming of skins from Minnesota, Wisconsin, and Michigan. We also enforce to the limit the limit of fish whether from our state or whether they came in with them. We have men on the wholesale markets every day, early in the morning and late at night.

We shift the men around and usually discharge or suspend the wardens in that district that is bad. We will move them from the southern to the northern or central part of the state. We have found by shifting our wardens around, bringing them into counties of the other fellows that the people don't know them. The Inspector, that is the Chief Inspector, calls in his inspectors about every thirty days and talks matters over with them and tells them districts which are good and which are bad and tells them to get going. We have gone through the law enforcement from, I might say, nothing up to the present day wardens.

We have either a Chevrolet Coupe or a Ford. We have them in uniform when they are on the highway so they may be distinguished when they pull up in a car. When they work in the field they work in regular clothing. The Inspectors either drive a Ford, Chevrolet, or Plymouth and they operate the district. We have twenty-one districts and it depends on the size of the district, usually one in each county and in the larger counties we have two.

We feel that the law enforcement problem in Illinois is one of our greatest problems and we can propagate fish and game, yet we must protect and we figure now on the next session of the legislature of enlarging from 133 men up. The wardens in our state are underpaid and there is a continual fight to raise the pay of those wardens. Although we are satisfied with our present setup and application is made for Game and Fish. That application is sent out to the Inspector or to the Warden and then they make an investigation of that area. We are using, more or less the same as Wisconsin is using in their wardens in every type of work. We do not deputize the other men although they carry credentials and badges and can make an arrest if they want, but we usually leave it up to the law enforcement.

We have a Chief Inspector and the Assistant Inspectors or Roving Inspectors to see how the boys are getting along. We are interested, very much, in this Civil Service and if any of you other Directors have any suggestions that you think might help us in getting good men we'd be tickled to death to hear from you.

Question: What percentage of the budget do you spend?

Mr. Lynch: Very small, probably $30,000.

Mr. Bode: What do you pay your men?

Mr. Lynch: They range from $110 and up. We furnish the cars and in addition to that they have their expense accounts. Of course, they get their meals and when they are out of town we pay all. The average total cost of the warden per year is, I would say, something like $1800 with the salary.

Mr. O'Connell: How many miles do they travel?

Mr. Lynch: They travel a couple thousand miles a month. They are centered in every community. They don't have the long hauls that Wisconsin or Minnesota has.

Question: How do you take care of the mileage?

Mr. Lynch: Well, we take care of it in this way. Whenever they go to a filling station they get a slip from the filling station, signed by them and signed by the filling station operator, less the one per cent Federal Tax and those slips are sent into the Inspector of the District. Each Warden has to file with his Inspector a weekly report. In other words, we require that during their tour duties that they talk to at least three people a day, and the weekly report says—patrolled from such and such a place to that place. That they ate dinner at a certain place and they traveled so many miles and the cost of gas was so much. These are sent to the Inspector

once a week and then he sends them to the Chief Inspector who checks the Inspector and then the expense accounts are made out on that basis.

Question: Do you use the credit card system?

Mr. Lynch: We don't; we pay cash.

Mr. O'Connell: We found the credit card system caused a lot of grief. They pay for all gasoline and everything like that.

Mr. Hutton: Does anybody here pay mileage?

Mr. Cluett: We pay five cents a mile. The wardens furnish their own car and they get five cents a mile up to 15,000 miles and then they get four cents a mile allowance. That figures out and enables them to buy a car and maintain it. They buy it on the installment plan, you see most of our men are allowed a thousand dollars a year expense money. Their average expense runs about a hundred dollars a month. They will probably travel 1500 to 1800 miles per month and they are allowed $1.35 a day for meals. Of course, that is a state law and it works out very well.

Question: Are they able to check this mileage?

Mr. Cluett: Yes, like Illinois we have a weekly report. It is made out daily but the report is summarized for the week. They have to state where they have been and they are also required to make a list of the contacts, so we can back check on them.

I am kind of interested in this illegal running. I believe that we could work to advantage with states like Nebraska, Iowa, and Minnesota, even Illinois. We find that in our pheasant hunting our biggest trouble is some of these "Wops" we call them, out from Cicero. This is no reflection on our Illinois man. He can't control that but they do come out in the eastern part of the state and we have a flying squadron. We strike out and patrol these roads down at Sioux Falls. It's really surprising the number of arrests that can be made and I believe that if we had an interstate setup that we could work to advantage. You fellows could give us the license numbers and that would be relayed to our local wardens. In that way we might affect a pretty complete setup. To make such arrangement with the Conservation officials and, for instance, O'Connell here from Nebraska, we have boys that come up from Omaha with their loads of illegal pheasants we have only thirty-two wardens in approximately sixty-four counties. We have a large area west of the river where one warden covers four or five counties. Three of those boys are what we call trapper wardens.

We also uniform our boys. They wear them all the time. The Commission, at the last meeting, went on record as cutting their allowance of twenty-five dollars per year. Some of the fellows are negligent in taking care of their clothes.

Mr. Hutton: Well, I think if all these states knew just what was going

on they could be induced to cooperate.

Mr. Cluett: I think we could work it out. Our worst defenders are from Sioux City, Iowa and possibly Chicago. They do come from Chicago and the eastern part of the state and of course other cities in the midwestern states. I am kind of interested in that undercover idea of Franks. I think that a warden gets kind of smart in his position. I think it is a good idea to send a plain clothes, undercover agent into a certain territory once in a while or, possibly, shoot in one of the outside wardens. Let them know there is a man that is in there. I know they resent it but it keeps them on their toes. I know of a couple of places where it is necessary.

Mr. Hutton: At one time we had "dummy" licenses on the cars.

Mr. O'Connell: We had a special arrangement the same as those out of state licenses in Iowa, but we require them to carry a regular number.

UNIFORM LAWS FOR BOUNDARY WATERS

Mr. Hutton: The next topic is "Uniform Laws for Boundary Waters" presented by Mr. O'Connell of Nebraska.

Mr. O'Connell: Since the wildlife of America is the property of the people and, with the exception of waterfowl, is under the control of the several individual states, we are always confronted with the problem of getting along with our neighboring commonwealths.

This problem is not difficult to solve on boundaries fixed by permanent land marks and which follow definite land lines or survey stones. It is where the state line follows a water-course, usually a river, or where a lake is located on the line that our problem becomes more complicated. This is particularly so when our states are divided by rivers like the Mississippi and Missouri, which do not always stay put and frequently change their courses.

The problem is much more complicated in handling such streams and lakes where our laws are not in any manner uniform.

Therefore, it would seem to be a good policy for this organization to work toward the uniformity of laws among the several states that are members thereof.

There are both laws and regulations to be considered.

The laws are made by our several legislatures and do not always give due consideration to problems of enforcement, hence it is more difficult to bring them to fit into a common pattern.

On the other hand, our regulations are made by our several Game Commissions, and since they are familiar with the problems of enforcement, there

is no reason why great difficulty should be encountered in making them similar in scope and effect.

The general laws provide in most cases that the center of the trend of the stream shall be the line of demarcation between states divided by rivers. In a lake the line can be fixed by survey and marked by buoys, and hunters and fishermen told to stay on their respective sides. However, in the case of the river that frequently changes its course, the old center of the trend does not hold in practical enforcement. We have several outstanding cases where the river has made great changes between the states of Iowa and Nebraska. I have in mind the situation of Carter Lake, Lake Manawa and Lake Quinnebaugh. No doubt, the other states have similar situations.

First of all, the solution would seem to be that we attempt insofar as possible to get uniform laws governing such waters. While this cannot always be done in the case of laws that are statewide, I do believe we should make an effort to fit them into a common pattern. Before proposing legislation, the statutes of the other state or states involved, should be carefully studied and their problems given consideration. A number of states are now doing this. Only last week I attended a meeting at St. Joseph, Missouri, where Missouri, Kansas and Nebraska discussed this problem and make some headway toward uniformity. I understand that Iowa, Wisconsin and Minnesota have likewise conferred on such matters.

Secondly, I think our several Commissions should also keep our neighbors in mind when making their regulations applying to such waters. In many cases, little changes can be made that reduces the enforcement problem and makes it easier for the sportsmen who want to hunt, fish or trap in such waters.

Then there is another way that many little differences can be adjusted and the sportsmen helped. That is by a definite understanding between the several states as to just how they interpret their laws and intend to enforce them. You might call these "unwritten laws." We have such an understanding between the states of Nebraska and Iowa. While our laws say the middle of the stream is the boundary, by mutual agreement and understanding, we permit a fisherman or a hunter to fish or hunt any place in the Missouri River on his state permit. In other words, a resident of Iowa holding an Iowa permit can fish any place in the Missouri river without molestation by our officers if he doesn't get up on the Nebraska bank. Of course, in fishing that would not bring about an arrest but if he climbed upon the bank and started hunting on our cherished soil it is possible a warden recently censured by his Commission for not making enough arrests might take him before the worthy Judge.

In closing I would recommend that we adopt a definite policy in our association to work toward uniformity of laws and regulations and that we instruct our law enforcement officers as to such policies, agreements or so-called "unwritten laws" as we may decide upon, and see that they are followed in their enforcement work.

Mr. Hutton: Discussion is to be presented by Mr. Swift of Wisconsin.

Mr. Swift: This matter of boundary water becomes quite serious at times, especially, because the public can't understand always why the relations aren't uniform.

Now, Wisconsin is bounded by several states and principally Michigan by the Menominee River and Wisconsin and Minnesota due to the Mississippi and Iowa and Wisconsin due to the Mississippi. We have more trouble there than we do with Illinois because there are no waters that form a boundary. Now, the Minnesota Commissioners have the authority to make regulations as has the Wisconsin Commission. So the two Commissions, since 1934 I believe, have met periodically, especially on fishing regulations on the Mississippi. Now there is no question, they get into some disagreement as to what is proper but on the other hand you can have quite an argument as to what regulations should be. It is better for the Commission to thresh the situation over than to have the public wondering why the regulations can't be more uniform. With Michigan they have to go to the legislature.

Generally speaking, our relationship with Minnesota has been the best in getting a common regulation and there hasn't been any matter that we weren't able to thresh out between the two Departments as to what should be done on the Mississippi. But, that is a very necessary and fine thing to work for, but so long as the legislature controls the opening and closing of seasons, in many respects it is impossible.

Outside of that I have nothing more to say on that. I think it is a problem that is common to most of these states and that you are aware of it.

Mr. Schwob: Mr. Chairman, I think that was one of the reasons this Association was organized, originally. Isn't that correct? I think a great deal of good can be done if we states, Illinois, Wisconsin, and Nebraska can get together on these regulations. We have a problem here in Iowa and we have quite a job.

We tried at the last session when we got the Wisconsin laws and Illinois laws and we tried to make our laws what we thought was right but I want to tell you, if you think that isn't a job, just try it sometime. I think we should do everything to try to work for uniform boundary laws because it is a problem. Certainly we should be able to agree about what the laws should be and then we can at least try to have uniform laws on the boundary waters. It certainly would be a great benefit to all the people.

Mr. Towrson: Minnesota has a statute very short and brief and to the point which states that it shall be unlawful on any of the boundary waters to take such wildlife in the adjacent boundary state. South Dakota has an identical statute with that and I think they have had no difficulty at all, so far as I know on the boundary waters between those states.

Last year in connection with the muskrat season when there was no way in which South Dakota could open the muskrat season, Minnesota by order and also publicizing it saw that no one didn't get muskrats on those boundary waters. It might be of considerable assistance to other states to have such laws enacted and get together.

Question: Mr. Towrson, do you then recognize other states' licenses if they get across the line?

Mr. Towrson: Well, of course, Minnesota and South Dakota have our chief boundaries consisting of Big Stone Lake and Lake Traverse and some other stretch. There is a separate provision in both states for a boundary water license. They get a special license for just those boundary waters.

Now, on the other side of the state, on the Mississippi between Minnesota and Wisconsin, by mutual agreement we recognize the right of the citizen of the other state to fish to the main bank on the respective side. That is, perhaps, a little more leeway. There is some dispute as to the original banks because of the back water that has been created with the big pools. I don't think we had any difficulty along that line, do you, Mr. Swift?

Question: That special license, is there any extra charge?

Mr. Towrson: Fifty cents, I believe.

Mr. Cluett: I want to take this opportunity to thank the boys of Minnesota for the splendid cooperation on Big Stone Lake and with our Department. We have been able to agree on muskrat season, fishing season, and, in fact, all seasons. We have never had the opportunity and want to thank the Attorney General right now.

We are trying to cooperate with Nebraska. We don't know how far we will get. You see the Missouri River becomes a boundary water between South Dakota and Nebraska about 200 miles above Sioux City. The boys up there have seen what a wonderful success we have made of declaring the Missouri River, within the state of South Dakota a game refuge. I am going to let the cat out of the bag and say that has resulted in making South Dakota one of the best goose states in the country.

Mr. Hutton: Well, if there is no more remarks along this line we will go to the next subject, which is Mourning Dove Hunting.

MOURNING DOVE HUNTING

Mr. Hutton: This next topic of Mourning Dove Hunting is to be presented by Mr, McClure of Iowa.

Mr. McClure: See appendix-1.

Mr. Hutton: The discussion is to be presented by Mr. Bode of Missouri.

Mr. Bode: I think, with the presentation that has just been made here, some of the things we have been wondering about for a long time has been cleared up.

My first contact was down at the University of Alabama and now being

conducted under Dr. Pearson. With the work at that time I have been able to check indications and trends a good deal along the same line.

We have known for sometime, that out of all our wildlife species, the mourning dove comes as near being the one species that has maintained itself under hunting conditions that we have known of, but we have all been wondering about how they have been able to maintain themselves and that was explained very good. I don't know what percentage of states are closed to Mourning Dove shooting.

Mr. McClure: There are thirty-two states that do have shooting.

Mr. Bode: If we had shooting in all of the states that would be another question as to what might happen to the population. A lot of damaging shooting is eliminated because of the method that is used. I don't know how many shooting fields there were and the ones that I saw were rather large fields of anywhere from two to ten or fifteen acres. Several do have feeds planted in them. In the morning if they were going to have a dove shoot they had a drive surrounded by trees and fence within one hundred or two hundred yards to keep the doves out of that field during the day. Then along in the afternoon the dove shooters will take the stand on that field in a great many places.

The number of doves that were taken were rather high but I think I checked twelve shoots of that kind and the amazing thing to me was that there was a small percentage of doves shot because when they came in they came like lightning and if the shooter didn't get them coming over he didn't get them. I was also surprised at the dove management that was being carried on. There was a rather heavy nesting of doves all around in that area so they were keeping up production well.

Now, I have always been one who has deplored anything that works to the extinction of the species but it has seemed to me, with the characteristics, with the regulations that we have on doves; it seems to me and the difficulty of shooting doves that they are not an easy thing to shoot, and they have been holding their own and we have open season but our per cent of people who hunt doves is very small and yet there are a few people who like to hunt doves, that maybe we could put less restrictions on them because what species comes nearer supporting themselves than the mourning dove?

Question: What is your season?

Mr. Bode: It is a Federal Season. We correspond with a Federal Season.

Mr. Hutton: I'd like to find out what states have seasons. Nebraska, do you allow it?

Nebraska: No.

South Dakota: No.

Minnesota: Yes, we had a season on September 15. We find that is the tag end. We just get the last few cracks at them.

Wisconsin: We don't.

Illinois: Yes.

Kansas: Yes. We have tried to bring it up the legislature but it gets kicked out.

Question: Mr. O'Connell, didn't you have dove hunting in your state once?

Mr. O'Connell: We did one year about four or five years ago.

Mr. Bode: What is the reason for not having it?

Mr. O'Connell: The bird lovers and a few of the sportsmen that hunted doves have been against it. We have been having quite a controversy. Last year we wanted to test out so we sent out about 75,000 ballots, yes and no, if they wanted to have dove hunting and when we got it back there was less than five thousand and about 1900 was for it and 2200 or 2300 against it.

It seems to me we should approach this question not only from a scientific but from the practical angle and that the problem you have in Iowa might be vastly different from the problem we have in Nebraska or the problem in Kansas.

Mr. Douglas: The various state Game Commissions go to the public for approval of this activity, as Mr. O'Connell said, and we went to the shooting public. We went to that section of the public which might be very reasonable and most favorable for the mourning dove shooting and we got an unfavorable reaction from that section. We didn't hear from the nature lovers or the people who have homes of doves nesting all about them. We know how the public reacted against dove shooting in Nebraska in general.

This was a very fine research discourse and it brings forth a lot of fine information but after all is said and done you will have to admit that though your dove population maintains itself against further inroads by the hunters, especially, you have got to take into consideration the minds of the public, what they think about it.

Question: Does the Iowa Game Commission have authority to open the season on doves?

Mr. Hutton: It has to be a legislative act.

Question: Did you get any reaction in Minnesota after this year's experience?

Minnesota: It is the first time in several years that we have had an open season. We used to have an occasional open season. It's been a matter of great controversy in Minnesota for the last three or four years. We had an open season, I think in 1928 or '29. The Federal regulations provided an open season but the Com-

missioners of Conservation at the last moment closed it. They were of course subjected to a deluge of protests and petitions. The following year a bill was introduced to put them on the list of song birds. The bill passed in the senate but failed in the house. The same legislature passed a bill however which provided a migratory wildfowl hunt so long as the Federal regulations permitted it, after the 16th day of September.

I have found that these birds generally start to go in August. We just get the remnants of the shooting and the spirit urged on the Division of Game and Fish is that this is a game bird and if it isn't a game bird and is a song bird it should be taken off by legislation action.

PITTMAN-ROBERTSON PROGRAMS

Mr. Hutton: In Iowa our project was a land acquisition project. We had a marsh area north of here amounting to $30,000 under the act. Our money is all obligated and also part of the second allotment.

An application is prepared for the development of a project on that same area. We will eventually have about two thousand acres. The Upland game and development project consists of building dams and dikes.

That, briefly, is how far we have gone along with the Pittman-Robertson. We have had no difficulty in getting our projects approved or operating under the setup. This is about all I have to say and probably a lot more will be brought up in the discussion.

Mr. O'Connell: I'd like to say that there have been things in the projects that we have kept in mind in Nebraska. The first is that we are very jealous of our state rights. We don't want the Federal Government to encroach upon them any more than necessary. So we have kept in mind fundamentally the first thing is to get the project and not be like, perhaps a highway system that would be mutually developed so that the Federal Government can step out of the picture and it becomes a state proposition.

The second fundamental thing, we didn't want to get any projects that would eventually call for state maintenance. That would be vital for other things; so, with those things in mind we have gone ahead and started some projects. I might say, further, that in our relationship with the Biological Survey that are handling the Pittman-Robertson activity we haven't experienced any inclination on their part to be dictatorial. They have cooperated beyond our bounds of hope.

Now, the projects that we have in Nebraska. The first one is a pheasant rearing project. We operated, last year, in twenty-five counties and have increased it this year up to fifty counties. We are increasing it to sixty for next year. We furnished brooder and equipment to local organizations or groups and we furnish the day-old chicks from our game farms and they rear these birds, releasing them on centrally located places.

For a period of five years the birds are banded and released under the

state setup and supervision on these refuges. They have 200 to a brooder at one time and they can get a second batch if they want to do that. They furnish the energy, we furnish the birds from our game farms. It has worked out very successfully in many counties. We have a heavy population of pheasants, but it gives the sportsmen and the public, generally, an ownership in that species of bird. It has been very fine and after all when you put some birds out in that county and they have chipped in together and they have an ownership in them they take more interest in them than if you just threw them out there. From that point of view we find it is very important.

We have a small land acquisition project and also the bureau will permit us to acquire some property in our state, what we call the Pine Ridge Section for Refuges for deer and grouse. Those are the projects that we have in mind and are working on. So far we feel that the Pittman-Robertson projects are very helpful and will help us to carry on, to a greater extent, the program that we have in Nebraska.

Mr. Shiatt: South Dakota so far has one project. We have another project that is about ready for approval. We figure that we will be able to take up all the money that has been apportioned to our state. It might be that we will not be possible to clear up small projects that we are working on. We have in mind setting up a Pittman-Robertson for the Sand Lake Refuge up near Aberdeen. There are several thousand birds on this reserve. I talked the other day with our regional director and he said that if we go through with a project they will insist on the areas where we restock to be closed for at least two years.

Of course, you fellows have the same problems as we do. There are certain areas which are not very heavily populated and we have requests from sportsmen and politicians to shoot some birds into these areas. We might be able to do this but it will be at our own expense.

We have also had in mind a research program. Down in the southern part of the state, down along the Missouri River adjoining your state that has been a very good quail area. We still have a good population of quail but it is possible that they can be brought back up where they can afford excellent shooting again. It is possible that our Commission at the next meeting might set up a research program and development program. I think a better result can be obtained for a period of about five years, especially the land acquisition program, in that you will be enabled to go out there and purchase suitable areas on the market.

That is about all I have to say.

Mr. Hutton: How about Minnesota?

Mr. Towrson: In Minnesota we have our first emphasis on land acquisition; a little development work, mostly fencing and posting some of our state-owned refuges and shooting grounds. We have also done some game stocking--pheasants and quail

under the Pittman-Robertson, but now we are turning more toward development work. That is improving our public shooting grounds and refuges.

We hope to get a research project started on diseases on grouse and snowshoe hare. We also have a number of investigations that we want to include under our Federal Aid Program, particularly in regard to our beaver and muskrat and may also try some on general pheasant study. That is especially on census studies and things of that nature. We have been more or less on this Federal Aid Program, trying to learn the intricacies. Now I think we know what it is all about. We have had splendid cooperation from the Bureau and we are making the most of it under the Pittman-Robertson.

Mr. Hutton: How about Wisconsin?

Mr. Grimmer: The Wisconsin program is comparatively simple. We have had very minor quail research projects in which we took over the cost at only 200 dollars a year. In addition we set up a research project on deer and one on pinnated grouse and on aquatic food management. Each of which is to carry for three years. The deer project will cost us about $30,000 for those three years; so with the money that we have accumulated plus what we are going to get for the next three years Wisconsin is pretty well tied up.

Mr. Hutton: What about Illinois.

Mr. Lynch: Well, Illinois has quite a large program and is being handled jointly. I have the Assistant Directors of both the Division of Forestry and the Division of Conservation. Naturally, the Division of Forestry is interested in trees and we are interested in fish and game. This will give me a chance to check up on both of them.

Illinois: Well, the two fiscal years we have had an appropriation of about $88,000. That includes our 25 per cent. We are ready for our next year's appropriation. As I understand it there is sixty or seventy thousand Federal; so we are not going to have any hope of getting more.

Our project is on land acquisition and we have to date purchased $50,000 worth of land. This land has been bought and paid for. The project was set up in two segments. The second includes about $20,000 worth of land which will be purchased as soon as we are able to clear title.

Now in research, the Department cooperates with our state Survey. We have set up three projects; one including a couple on game research and the other migratory waterfowl. We have submitted for approval which will be considered research on coon and squirrel and we have to date not had that approved but expect to have it any day.

In development work we have three projects under way. One includes upland game development and the other Department which probably most of you are familiar with in Southern Illinois. The third is development of small upland game areas and in regard to allocating.

In regard to cooperation, I don't think that could be more perfect.

The man which we deal with has been very cooperative and helpful.

Mr. O'Connell brought up the point of state rights. It is taken for granted that our state rights will not be jeapordized because the limitations of the Pittman-Robertson are written right into the Act. I have seen a lot of Federal legislation where the act was too broad to ascertain the determining point, but in the Pittman-Robertson Act I think the stipulations are sufficiently written into the act that we don't have to worry about that angle of it.

Now, one point was raised that the Biological Survey suggested closing a certain area after purchase. We feel, in our state, that that is state money. Once it reaches our state that is state money, to be spent by us in accordance with the terms of the Pittman-Robertson. As I look at it I see no cause for alarm.

Question: Are you contemplating tree planting on your projects?

Illinois: Yes. We have land that we'd like to put into game production. We'd like to know how to do it. We set up a six month's project with possibilities of acquiring land through cooperative field easements. Now we have to make our contacts through interested groups. In your work you have to go out and solicit from house to house and there are some that will not care to cooperate with you to any great extent. Our first contact was clear down in the southern county with sub-marginal lands and very little nesting cover. Our highway is probably the only places where we have any nesting cover.

Question: What kind of a fence do you put up?

Illinois: Two kinds; one wire and the other barbed wire.

Mr. Hutton: How about Missouri?

Mr. Bode: Well, Pittman-Robertson in Missouri came along just about the time we were starting our reorganization of the Department. We had practically nothing in the way of background. We decided that the wise expenditure was to put it into a program of surveys and investigations of the operations of cooperative farm management areas because we had previously gotten a small program of that kind under way. So up to the present time we have devoted a large portion of our funds to that project of District Biologists whose duties it was to, first of all, check the areas that we did have. Investigate the possibilities of establishing additional areas, all on a cooperative basis; making the studies of various forms and at the same time study the fur bearing animals and surveys of prospective areas for public acquisition, centering principally around migratory waterfowl. That is one of our big needs in the State of Missouri.

Just by the end of this month we will have completed our first acquisition area which is rather a large turkey producing area or refuge. We have a proposal in now, it may be back now, for the first acquisition on migratory waterfowl areas. We have absorbed all of the funds that

have been made available to the state and have our program set up so that we will continue to use all the money from now on, whatever the expansion will be in the matter of acquisition and development of refuges and public areas.

Mr. Hutton: How about Kansas?

Mr. Josserand: Mr. Chairman, our Pittman-Robertson, so far has been confined to land acquisition and to bird stocking. We have, at the present time, one land acquisition that is completed and it is in connection with the refuge. We have been hooking up with the Arkansas River and stabilizing the whole area. Then we are taking our pheasant stocking program under Pittman-Robertson, largely by releasing birds on these areas and with the thought in mind that the birds will radiate out from these areas. We may do some quail work that way. We have also a 1500 acre tract that we are developing with Pittman-Robertson funds and making a game refuge out of it. We have additional amounts and we have not decided yet what we will do with that, but probably continue with our bird stocking program and develop cover in certain areas.

Mr. Hutton: I'd like to propose that we permit the State of Kansas to join our Association. They are willing to join with us.

Our next topic is "The Administration of Game Management" to be presented by Mr. Grimmer of Wisconsin.

THE ADMINISTRATION OF GAME MANAGEMENT

Mr. Grimmer: I know I'd be very happy to tell you how to run your affairs but I have just drawn up a very short outline. We can devote the greater part of this to discussion.

It isn't pleasant to tell you that each year our game administrator problems have become a little more complicated. Then the demand of the public is becoming much more heavier. That brings up the need of more personnel, more money, and I sometimes envy these men who have a specific management or research project to follow through and do that alone because of the complications of our own administrative project.

Up to the present time, at least in Wisconsin, we have attempted to use what little we could of science, a great deal of theory, some research, a little demonstration and a great deal of public opinion which is cheap and easy to get in the administration of our program. We have tried to take stock of the goods on hand. Of course that is a difficult thing to do. We go through surveys, through census reports, and I'd like to report on the Wisconsin program in that regard.

We have in Wisconsin a very complete census report in which each species of game is listed. This is a "kill report" and the county in which the kill is. That is a very valuable report. If we find that our pheasant kill, for instance, has jumped from fourteen to twenty-seven thousand we check on the environmental factors. We have a chance to check the proportion of cocks that are killed through surveys, perhaps a half or two-thirds. We have a

chance to check the ration of hens to cocks and we can get a pretty good estimate of the approximate number of birds in that county after the close of the hunting season. We combine that with prospective winter losses and other losses, at least some nesting losses. Today we have an opportunity to check through our counties on almost any species of game and arrive at a rough estimate as to our stock of goods on hand and how we can best utilize the surplus.

I don't believe that we shall have in Wisconsin a sufficient number of personnel to scientifically estimate our game population or that we shall have enough men to carry on a program of controlled hunting, scientifically. We are attempting to do that as best we can at the present time by regulations. Now after the Game Administrator finds what he has on hand the next thing, of course, is to crop the surplus. Many states have the power to advise their Commission as to how these game surpluses shall be cropped. In Wisconsin we are very fortunate, or unfortunate, I don't know which in being permitted to establish our own hunting and trapping regulations. Personally, I think that is a most important part of the Administrator's duties to be able to make such recommendations and to have them followed out, if possible.

I think most of you know the Wisconsin system. The questionnaire is prepared on both game and fish and sent out to seventy-one counties. The questionnaire is returned and the questions are tabulated on graphs and made up on charts. Recommendations are discussed in relations to the Game Management Board. Then the committee of three from each county which are elected at this public hearing meet and we spend two days in making up recommendations on hunting and trapping and fishing, to be presented to the Conservation Commission.

We do that at a subsequent hearing and the regulations are either approved or disapproved and either changed or not. I know that many of you would be glad to have the opportunity of such power. It is a difficult question and personally we would like to see every state in the Union have such power.

We haven't time to go into sportsmen's regulations, at least I haven't here, perhaps we can bring it up a little in the discussion. The question of cropping game brings that toward the front and the question of public hunting grounds, both of which are about the closest we can come to controlled hunting. We have a licensed shooting preserve law. It is not a popular law among our sportsmen, still it is an intricate part of the picture. Some 30,000 pheasants have been stocked and some 10,000 have been taken. It is no question but that it has done some public benefit. At the same time these fellows have not taken state birds. It is not a popular system and we have quite a controversy on the question in Wisconsin at this time.

A program that is of ever increasing interest to all of us is the small refuge program for pheasants and rabbits particularly. In Wisconsin we have some four hundred thousand acres of large deer refuges. In addition we close up an additional half million acres of land during the deer season. It has worked wonders. Illinois tells me that they

have already made considerable of a start and I believe I know that other states are attempting to do the same thing. I believe for economical administration the preventing of shooting of surplus cocks in wrong season and with conditions that are favorable hideouts it is going to be very, very important factor in our administration in future years.

Wisconsin has been a little bit backward in taking hold of some game management theories, setting up areas for the reason that much of the research information is laid across our desk and not used in a practical way. In our own state we are beginning to get some of that information through our own surveys. We hope to set up as many demonstration areas, particularly as regards natural food and natural cover. The state of Wisconsin owns very little land in the southern part of the state. We have recently taken over 120,000 acres in the central part, We don't need cover but we can use some food. But, in southern Wisconsin we can use particularly cover and in some years a considerable amount of food.

Wisconsin has done some work in administering game management affairs. The question of education--I notice that Iowa is doing a great deal by pamphlet form. I think it is splendid. We are doing one of our biggest jobs of education at the present time at our state game headquarter. We have a large farm and we have set up one or two smaller demonstrations. It is creating very much interest and that is leading to more interest in fundamental conservation.

I needn't discuss enforcement and its importance to Game Administrations because you have covered that this morning. I would like to discuss the foreign pheasants and partridge and quail. Our quail die each four or five years in the southern part of Wisconsin, due to heavy kills. We probably lose a million quail due to those difficulties. There are probably more rough grouse and sharp tailed grouse here than any other state in the United States. Our question of administration on the grouse is more one of utilization, so far as the ruffed grouse and sharp tailed grouse is concerned in central Wisconsin. It is one of management; our cycle is going up now and has been for three years where probably we should have a thirty day open season and a bag limit of five and ten in possession, in the hope that we can take off about four hundred thousand ruffed grouse and several hundred thousand sharp tailed grouse. Of course when the birds did go down there was perhaps an 80 per cent drop. A great many million of these birds could be utilized for food or sport. We didn't know enough back in 1934. We think we are on the right track now.

Wisconsin hasn't a great deal of pheasant cover; consequently, we have had in some years to institute a very much artificial feeding program. We spend five to seven thousand dollars on feed and the sportsmen spend that much as 90 per cent of our sportsmen's clubs are active in feeding operations of some kind. I am not going into the types because we haven't time. We use the food-patch system, principally of corn, and the hopper method of feeding. Our winter losses have been very negligible since 1933, so far as we are able to ascertain.

One thing I'd like to bring up. We can do considerably more planting of aquatic foods under the Pittman-Robertson. The duck lakes in southern

Wisconsin, particularly, are going to pieces rather fast.

I am going to touch for just a moment on our stocking program because that is carried on largely by sportsmen's organizations. We got a permit from the department to let out day-old pheasants to rear them until the age of nine weeks, provided that they in turn purchased the equipment approved by the Department. They have stocked the birds that have been distributed this year. In addition they are carrying some work with the chucker partridge. We have about 145 Clubs that have already a large investment in that equipment, and we have some Clubs handling as high as five thousand birds.

I think they are going to have a better conception of cooperation with the Department and what we can do in other phases of game management. Through such cooperation the Wisconsin public has been very slow to take hold of food and cover restoration. As I say we run into the private lands in the southern part and it is very heavily populated. It is to go out and lease blocks of land of such size to carry on the work that we want to.

I don't think that anyone of us want to be forced into my one school of thought and I feel that with the science of Game Management and as new as it really is, and it is one of the newest sciences in Conservation, that at the end of a few years we will be able to apply the knowledge that we have at the present time. I am sorry that my voice is such that it is because I just picked up a cold.

Question: I'd like to ask what idea that you had in purchasing or leasing of these big blocks.

Mr. Grimmer: A bill was presented in the 1939 Legislature to increase the hunting licenses to two dollars. At the present time it is one dollar. That money was to expended purely for hunting grounds. Of course, we would be permitted to establish sanctuaries. The land was to be acquired mostly in Southern Wisconsin. The blocks preferably to include areas of about three hundred acres, perhaps as high as one thousand acres or more and the rate of pay to be ten cents an acre for poor land and the price to raise as the value of the land. We would post the entire block and we would do some stocking and food planting in the area. We would purchase a considerable amount of standing feed from the farmer. A damage fund of $10,000 was to be set up for the fences that were down or the other complaints that would come in. We feel that out of the three hundred thousand hunters that these five hundred thousand acres are going to take care of anywhere near the bulk, thirty or forty thousand people in those hunting areas. The leasing of those lands, alone, will run into $20,000.

That law did not pass. It was sponsored by several sportsmen's groups.

Mr. Hutton: The Discussion is to be led by South Dakota.

Mr. Cluett: Mr. Chairman, I think you picked the wrong state. We are

probably one state in the Union that does not have a program of management. Other states seem to be a natural habitat for upland game birds.

We have had a reputation for the past ten or fifteen years of trying to find enough men to shoot them. That is we have raised enough pheasants too that we can chase them over into Minnesota and Iowa. Our partridge crop has made rapid progress. We had five counties open last year. This year we will be able to open up several more. In our pheasant problem I think we will be able to declare for a 30-day open season. We have a wonderful crop. They tell us about an old turkey hen that is sitting on nine turkey eggs, a dozen pheasant eggs, and nineteen Hungarian Partridge eggs. You know from that that conditions are most favorable this year and that is actually the fact. The last two weeks I have had numerous cases reported to me, and they are not only reported but they have sent in pictures to verify their statements.

We have not been obliged to indulge in any management of upland game birds. I don't believe we will take on the Chucker to any extent. The only Game Management Program that South Dakota has had you might say was beaver. Twenty years ago they were practically extinct. Along in about 1932 the state engaged trapper wardens and began a beaver restocking program and that has been carried on successfully until our sales this spring amounted to approximately $18,000. In March we sold six hundred forty-one pelts and in May we sold seven hundred fourteen pelts.

Our muskrat program, of course, has been on account of the drouth conditions; that some of the sloughs are dry. When we restocked these sloughs we got them from a refuge in the southern part of the state.

As far as our ducks are concerned it is the best crop that it has been in a number of years. The only trouble is to get the proper open season satisfactory to both areas. We are considering in respect to pheasants an establishment of some small refuge in heavy populated areas, like around Sioux Falls; that is the only place we will carry out the refuge program.

I am sorry I can't give you any more information on this.

Mr. Hutton: I'd like to ask the question from Wisconsin. What is your personal opinions as to regulations and its effects on your management?

Mr. Grimmer: May I let Mr. Swift answer that?

Mr. Swift: Well, for the last six years we have carried on census methods on deer. Personally, I'd like to carry on more extensively and I don't think that any state should rely on one type of census method either. But, we have used the block method. The census shows that there is a variation throughout the state. The ratio, even last year, was one buck to three does. Wisconsin has had a buck law periodically since 1916. We have had four consecutive open seasons and in those four years the last year was designated as having a bigger kill than the year before and the year prior to that had a bigger kill than the year before that. We had a three day season and our position is that we know we have a hundred and ten thousand

deer hunters because that is the amount of tags that was sold last year. The number of hunters going into the woods, from the standpoint of human life is great and what would happen to the deer population?

There is no question about it that certain areas, I am satisfied in my own mind from these census reports, where the balance isn't what it should be today. Possibly we will have to look forward to controlled hunting on deer. The deer problem is probably the most controversial. There is no question about it, there are areas in our own state where the foresters have to quit planting pine trees because they eat them up as fast as they plant them and now they have gone into a species of spruce. The foresters have complained about it.

There is too much to do and it gets to be a real headache when we start talking about a deer question.

Mr. Hutton: I'd like to say that Federal Agencies are represented here and we'd like to have them say something in regard to this also.

Mr. Shantz: Of course, so far as National Forests are concerned we are hoping that they will be great sources of production of wildlife, that we can so administer as to give you at least less trouble on those blocks as we are checking for the private land areas. The problem of our population is, of course, a controversial one. Utah is one of the most interesting states on the deer question. I have just been out there and they have ten times the number they had in the twenties and all the time they have had an open season on bucks. The rate of increase has been a compound interest plan and they have doubled in three years and in other cases in five years. I declare I have never seen any place where you have the ratio that you have here.

We have heard a lot of discussion in the West about there being so many bucks. Well, naturally, the bucks run more by themselves and the does run together more and that gives a bad ratio to the public.

Mr. Hutton: How about Minnesota?

Minnesota: As far as the deer proposition we have a different setup. We have a one deer law and we shoot only every other year. Since 1930 there have been two extra seasons. Our winter mortality has been very large. In our one deer law you can either shoot a buck or a doe. The hunters seem to take about twice as many bucks as does.

We do have a problem in Minnesota and, eventually, we are going to take more controlled action. So far we have the Big Beltrami, about two million acres up there under the supervision of the Federal Government. We also have an opportunity to carry beaver management and other fur animals. We intended to work on them in regard to small game management. We have a rather fortunate association with the University of Minnesota, cooperate very closely with them and some of our research work is carried on with them. We don't turn any money over

to them. We employ men who work under our supervision, cooperatively working with Dr. Swanson and at the present time we are carrying on pheasant nesting and its production in southern Minnesota.

I don't think South Dakota can brag about their pheasants coming into Minnesota. They might come into Minnesota a short distance but actually we don't need them. We can shoot you over a million birds. I think it is very important for the states who are in the pheasant range to watch very carefully their pheasant sex ratio and regulate their seasons accordingly. Our pheasant program has been going on for a number of years in regard to stocking. We have lots of problems and only a few answers, yet we are expanding our game management program.

RECESS

MIGRATORY BIRD SEASONS

Mr. Hutton, Chairman: It's getting kind of late. It's a half hour past the scheduled time and the next topic is the last one up for discussion, that is Migratory Bird Seasons and I have asked Mr. Cluett of South Dakota to present this subject. I know they have some definite ideas because I got a copy that they sent to Mr. Gabrielson.

Mr. Cluett: Gentlemen: Before going on with the subject allotted to me I would just like to take a few minutes extra. I want to call your attention to this picture. You probably have noticed it. I am not trying to do any advertising but this picture is one of Mount Rushmore Memorial. It just happened that the boys out at the State House had this picture. They have been distributed around the various state offices and the publicity man in the highway department sent one of them to me. While I realize that this colossal piece of art in South Dakota is ours, nevertheless, it belongs to the entire country and especially to the middle west. Out of recognition to the work that our President has done, regardless of whether he is reinstated in his job, and with your consent I would like to present this picture, not from South Dakota but from the entire group of states that represent the Association of the Middle West Game and Fish Commissioners, and I'd like to present that to you, Mr. Hutton, for your work as president during the past year.

Mr. Hutton: Well, this is kind of an unusual situation and I am not prepared to give any speech. I appreciate the thought behind it and I will be very glad to accept it. It is a fine picture and I have read a very great deal about the work they have been doing and again I want to say I certainly appreciate the gift. Thank you very much.

Mr. Cluett: This is the first sessions of this nature that I have attended and in giving this speech I didn't know whether it was permissibl to read your manuscript or not. But the other day I witnessed an incident. I happened to be at a movie show and during the newsreel I saw our President, FDR, make his speech to Congress and I noticed that he constant

ly referred to his manuscript; so I had that thought strike me that a man in his position--a fellow that can find time to stay out for three or four fishing trips a year can get by by reading his manuscript, I thought it was permissible and perfectly excusable for me who was just an old game director that never does get time to go fishing to read mine. So what little I have to say will be mostly read. I guess we left the most controversial question to the end.

The Migratory Waterfowl season is perhaps one of the most controversial issues with which the various state game departments have to deal.

We have found this to be true in South Dakota--so true, in fact, that it threatens to disrupt our present bi-partisan set-up. Our state, ever since the setting of last year's open season, can almost be placed in the same category as was our Nation during the Civil War--a divided North and South.

I found during the discussion of this duck problem at the Wildlife Conference in Washington last March, that many of the states faced a similar dilemma.

Before proceeding on this vital subject, I want it plainly understood that we in South Dakota are not really trying to place the Biological Survey on the "spot." We do feel, however, that since the administration of the migratory waterfowl law is in their hands, and this bureau assumes the responsibility of "setting up" the regulations, they should recognize the problems confronting the various state game departments, and do their utmost to help them get off the spot.

After all, the Survey must rely heavily upon the state conservation agencies to enforce its migratory waterfowl regulations and it should therefore cooperate with us in making this task as agreeable as possible.

Our state has 32 full-time wardens who are deputized for Federal enforcement work the year round.

As early as February of this year, letters started pouring into our office and newspapers engaged in controversial editorial barrages over the 1940 season. In fact, this verbal combat has been almost continuous since the 1939 season. Not only individuals, but organized groups, have threatened to make a political issue out of it and ask the legislature--which meets in January next year--to repeal the law creating our present game set-up--which is considered one of the best in the Union. Can you blame us, then, for seeking a way out of our present difficulties.

The irony of it all is that the solution rests merely in trying to secure an open season agreeable to the northern section, which is an enviable "duck" area, and the southern section, which affords some of the best goose shooting in the nation.

Such a solution, we contend, cannot be found in a 45-day season

similar to that of 1939 in which the northern zone opened on October 1 and the intermediate zone on October 22. The October 1 opening benefits only the shirt-sleeve hunter in the northern counties because it has been proven year after year that the mallard and goose flight does not reach the good southern hunting areas but a few days previous to the season's close. Conversely, the October 22 opening is an injustice to our northern duck areas as the annual freeze-up, under normal conditions, would drive the birds south before the season was half over. South Dakota is not the only state in which the weather is the important factor in determining an open season.

We feel that we are within our rights in asking the Survey to "ease up" on their present "too arbitrary" regulations and after much discussion, our Game Commission, on May 13, adopted the following resolution, a copy of which many of you have received.

"RESOLVED: That the South Dakota Game and Fish Commission recommend a 60-day season on migratory waterfowl for 1940, starting October 6, and that a bag limit of 8 birds per day and 15 in possession be designated.

Based on the foregoing recommendations, it is our contention that a 60-day season will result in no greater kill of ducks, especially those species on which there have been special restrictions during the past five years because of their few numbers, than would occur during a 45-day season. This view is based on the following contentions:

(A) It will not result in a much greater kill because 75% of the total season kill occurs during the first one-fourth of the season. This 75% represents almost wholly native produced birds of the species not in serious condition and capable of standing larger kills.

(B) This smaller bag and possession limit will reduce the total kill during the first 25% of the season sufficiently to compensate for such additional birds as might be taken during the 15-day added season herein recommended.

(C) Inasmuch as weather conditions are the limiting factor regardless of the length of the season, the end of the season normally being governed by freeze-up in the northern zone; in the southern zone weather conditions in duckbreeding areas govern the dates on which the ducks move southward. To insure against an over-kill of birds in the southern zone because of the 15-day extension, it is recommended that the seasons be staggered at intervals of 15 instead of 20-day periods as in the past.

Such regulations would increase by only five days the continuous open season on ducks in the United States than would a 45-day season with open dates staggered 20 days.

Under such regulations, sportsmen in the northern zone will have greater opportunity to secure their just quota of native produced birds, many of which start southern migration early in October and also provide an opportunity to secure some shooting on late migrating mallards and Canadian geese; all of which species are capable of withstanding greater kill than our diving species which would not be subjected to great kill because of the foregoing recommendations.

After due deliberation, it is our belief that the foregoing recommendations will enable the various state game departments, who are charged with the enforcement of the migratory waterfowl laws, to enjoy the respect and cooperation of all conservation--minded sportsmen and organizations in a united program designed to restore and perpetuate our migratory waterfowl population."

We ask that that meeting take due recognition of the unpopular 1939 migratory waterfowl regulations and go on record as favoring the South Dakota Resolution or one similar in intent.

If the Survey is insistent on retaining the 45-day season, we then suggest that the individual states be granted the privilege of choosing their own dates, and that a later opening date be selected for the northern zone; or the goose season be extended 10 days beyond the duck season. We find that our sportsmen in both ends of the state are willing to concede a few days to each other in order to avoid any further controversy.

We feel that the 7 o'clock opening hour should be changed to sunrise in order to eliminate the discrimination caused by the time zone which divides our state about in half.

Another situation of major importance is developing among our duck population. I refer to the increasing number of birds wintering in the northern states. This is unnatural and is a source of needless expense and worry to the state conservation departments. Much of this apparent change in migration can be attributed to the many refuges being established during the past few years. The question is--should all refuges be thrown open during the last three or four days of the season and the birds "burnt out of the country?" We would like to see a frank discussion of this vexing problem.

This argument was brought up to the Biological Survey and they took advantage of that because it was making the law too hard to enforce. After all the Biological Survey, as I understand, has only 20 wardens in the United States. It's up to the individual states with their game departments to enforce these waterfowl laws. So their argument doesn't hold water in that respect.

That will apply to Nebraska, Kansas, in fact, all up and down there for the sunrise opening. It will eliminate the time zones in all the states where they have that change in time.

South Dakota: Now you boys who attended the Washington Conference will remember that Seth Gordon got up and asked those present, how many of them would favor a sunrise opening law and 21 out of 25 favored it. The four who opposed were states along the eastern coast that preferred afternoon shooting.

As to our ducks wintering and the game department wintering them. I think that the reason they are changing their habits is because of the artificial waters. I understand we have mechanical pickers and they

are gradually making the ducks change their migration habits and staying up here instead of going south. It has been recommended out in our state by sportsmen's organizations that these refuges be opened the last two or three days of the season and give the sportsmen a chance to burn them out of the country and send them down south where they belong.

There might be some logic in it. It would at least save us a lot of expense and no doubt would save us thousands of birds.

That is about all I have to say on the Migratory Waterfowl Season. I do want you neighboring states to realize that us fellows out in South Dakota are really up against a tough proposition and if we are able to get a 60-day season it's going to solve all of our difficulties. We don't want the present 45-day season and opening of zones. This matter has been discussed with quite a few federal men. I am not going to give any names. It might put the boys in bad. In fact, one of them had a hand in helping frame this resolution, and I have talked to quite a few of them since and they feel that it is a solution, not only for South Dakota, but for you other states where there is a variation between the northern and southern part of your state. I would like to see this association take some definite action today in regard to the Migratory Waterfowl Season as it will be just but a matter of two or three weeks until the Survey will be asking for definite recommendations from various states, and I think that some recommendations from this organization will carry more weight than a recommendation from each state individually.

DISCUSSION: Mr. Hutton: I will lead the discussion as there are no representatives here from North Dakota and it is just as much of a problem for anybody else.

Looking at the proceedings of the meeting held last year at Madison, in the brief time that I have been at it, apparently the matter of resolutions was left to the resolutions committee. Before we go into the matter of resolutions or vote on them, I want to have discussions of the various factors.

South Dakota: I just met a friend of mine who lives here in Mason City and runs a lumber yard. If it wouldn't have been that this was such an important topic, I would have stayed with him and visited. We used to belong to the same ball team. Before Mr. Cluett was our Director this proposition came up and Mr. McKay and myself happend to live in about the central part of South Dakota and the other commissioners live either in the northern or southern part of the state. Of course, they have got their goose hunting in one part and duck hunting and we voted wrong. But we did promise the hunters we would even the thing up. Last year as I remember it, the northern part of South Dakota was for October 1 and the southern zone wanted the later date. We held some meetings and talked it over and done the best we could. When the final dates were set we had to choose between the northern zone and the intermediate.

We found the intermediate zone opened around October 27, making a big spread in the dates of our state. The year before the goose hunters of the state and also the northern duck hunters who hunt the northern ducks, the ones that are raised in northern South Dakota, had about three days' duck hunting.

We had those two choices, either October 1, or October 22. We thought, well just like anything else; so we took October 22 last year.

Then afterwards we had publicity that we had done the hunters a good job. Then we commenced to hear from the sportsmen, especially in the northern part of South Dakota. Then we met them at the fairgrounds and quite a group fo those fellows wanted us to change our vote on the proposition and ask that they be put in the northern zone. Well, we realized that we didn't want to let the fellows down and that the season wasn't what it should have been, and that's why we are here to try and get a little better season for the hunters of South Dakota. Say if the weather will be normal and the rivers and lakes had frozen up in the northern part of the state, like ordinarily when the duck hunting opened in South Dakota, the lakes and rivers would have been frozen up in the northern part of South Dakota where we really raise ducks.

But we had an open winter. The goose hunters took after us and some of the newspapers. We held meetings and did whatever anybody else would and after it was all said and done that was the season for this year. But this year we hope to have a little bit more harmony among our sportsmen and if you fellows could give us a little more cooperation, I don't believe anymore ducks would be killed. It would allow a little more spread over our state and there is two or three weeks difference when the time the lakes freeze up in the state. We went all through this situation from one end to the other.

This year we have held meetings. We went into the northern part of the state. We stopped in small towns and we stopped in larger towns. They have agreed that if the season opened around the sixth, which then would be the first Sunday, that everybody will be happy. They have still hung in for the first, but we explained if we opened on Sunday all the hunters would be able to go out on the first day. We believe that we would get pretty good cooperation from all the sportsmen.

Our legislature will not be in session until January of next year. We have a non-political Game and Fish Commission, consisting of six members. We have got to deliver the goods. We have got to satisfy the politicians and we are in no position to have anybody take after us. In fact, we feel that we have done them a pretty good job. We have pretty good fishing and we have money in the treasury now. Then we can't hardly afford to let this little duck situation hinder us, and I think that a resolution along the line that Jack has in hand would do wonders to help the proposition along.

I assure you we will appreciate anything you can do for us. We are in a position where we can.

Dr. Strunk, Minnesota: Mr. Hutton can probably sympathize with South Dakota, but we want to point out that Minnesota naturally falls in the northern zone. Our state is quite a bit longer than South Dakota. We have the same problem as you would have if you'd put North and South Dakota together to deal with.

I don't feel, personally, that the bureau is prepared to grant to the states the right of setting their own time. It seems to me that they are going to continue using the zone method. I don't blame them in a way. They are looking from the standpoint of the ducks. If there would be different seasons in the different states, why there would be an increased law enforcement problem, because of the difference in opening and closing dates. But in Minnesota we would object to an opening as late as October 6. In fact, we get a burn on opening as late as October 1. Our duck shooters, our teal shooters, would like to set a date which would never suit South Dakota at all. So you see we have a conflict and I think this is a good place to iron it out.

We want you to recognize our problem that we have. This long state of Minnesota, which, incidentally, is the farthest most point in the United States and we run down to the Iowa border and along both North and South Dakota and Wisconsin. Our hunters wouldn't stand at all for an October 6 opening, I am sure.

Nebraska: Do they ever open on the middle of the week?

Mr. Towrson: Yes, that makes no difference.

Question: Do you recall whether or not they have opened on Saturday or Sunday?

Mr. Towrson: They have always opened on a date, irrespective on what day of the week it fell.

Mr. Gluett: I believe the Biological Survey has changed the dates from time to time. It was as late as October 17 one year, but usually it is about October 1. Last year it was on a Sunday--the first fell on Sunday. The year before, I think it fell on Friday.

Mr. Towrson: I would like to supplement some more. In 1926 the flight of ducks in Minnesota went through and the freeze-up occurred on the 18th day of October. In 1929 it occurred on the 17th of October. One year since then, and I don't recall which year it was, it again occurred on the 18th day of October. We have had three freeze-ups affecting everything except the southern tier of counties on the middle of October. So a season as late as October 6 is very unfavorable to the majority of Minnesota so far as getting any duck shooting is concerned. The freeze-up on about three of the past fifteen years has been on the 11th. Once it extended beyond that and the other times, I recall two years when the freeze-up occurred on the 23d and 24th of October.

Now you see the situation we are in, so far as weather conditions are concerned. I am not referring to the southern tier of counties but to the various majority of the duck shooting area of the state. My thought was that a fifteen day difference in zones if the states are interested if October 6 is the opening, and that is the opening in the intermediate zone and is extended for 60 days. South Dakota could, this year as she did last year, take the intermediate zone position and Minnesota with the 60-day season could open fifteen days earlier. North Dakota, Wisconsin, and Michigan would like

pretty well to open the season around the 20th or 21st of September in the northern zone and take the southern tier 15 days later. That situation, I think, would appeal.

Mr. Cluett: It would be no trouble at all if we could get a sixty day season. We'd go for October 1 on a sixty day season. In fact, the boys made a recommendation to that earlier and didn't want to back up on it. We would go on record as favoring an October 1 opening if we could get a 60-day season. It would be no difficulty at all.

Mr. Hutton: You'd just as soon take the intermediate zone opening for 60 days, would you?

Mr. Cluett: We don't care what zone we are in. We wanted to open earlier. It was the first Sunday in October. Now we felt at the time we talked this resolution over that the season opened too late in South Dakota and we hear from Minnesota and North Dakota a month after the season was over. In the northern zone those states, as I understand it, asked for an extension of the season because the weather had been unusually bad. They wanted their season lengthened. They asked the Biological Survey to extend the season, which of course was not done. We felt that possibly the northern zone would open later than it did last year. Then in that case we would like to be in the northern zone or whatever zone came closest to the October 6 date. Then also in case that we didn't get a 60-day season and we got a 40-day season, we would rather have October 6. But we are endeavoring to get along just as closely and you have our idea of it at least.

Mr. Hutton: Wisconsin is in the northern zone. Have you any comments?

Mr. Swift: Our situation is a little bit different than in Minnesota because we have the old teal clamor. As usual the season used to open September 16 and the boys got pretty good teal hunting. I think last year the ducks moved out one or two days before the season and the teal season and shooting fell down. They usually make it up on the other end due to the fact that we have had a tremendous number of ducks in southern Wisconsin in cornfields after the season closed. In fact our biggest flight of mallards went through after the season closed last year.

Consequently, along the lower part of the river, through the southern half of the state there is a clamor for late seasons. Of course, we have got to figure northwestern Wisconsin about the same condition as you have in northern Minnesota. We have got a tremendous number of lakes and a very heavy kill during a normal year, but I would say about the closest we would hit an ideal date is in the neighborhood of September 25 or October 1 for the 60 day season.

Mr. Hutton: Well, there seems to be a few things under discussion. One is the length of season and the other the time of the start. We will have to try to get this settled, one thing

at a time.

Mr. Swift: Of course, the bag limit, if you have sixty days; I think Wisconsin would be glad to go along with the bag limits and opening.

Mr. Hutton: Do you have much sentiment against the seven o'clock opening? Did you ask for an extension last year?

Mr. Towrson: No, we did not.

Mr. Strunk: I had an opportunity to sit in with the group in Washington and also sit down with Gabrielson, in which I presented this thing, namely, a season opening at, say a couple of weeks prior and giving us a 60 day shoot, and also the possibility of having sunrise shooting or half an hour before sunrise.

Well, I got it that the Survey would grant one of these things and the one that they would grant would be the one that they had the most sentiment for. Now, as far as Minnesota goes, I think we would strike for a two weeks extension, possibly the opening falling on the 16th. But we are willing to agree to a split on time, say it falls somewhere around the 21st to the 25th and extend it through for a period of sixty days. I think we should remember this, namely; that we can't ask for both things. We can't ask for half an hour before sunrise and at the same time ask for an extension because the Survey won't play ball with us on both of them. Gabrielson made that impression on me and we are either going to have half of the pig or none but you can't take the whole thing. We could arrange a date somewhere between September 16 and October 1. We could arrange a split in the difference and then continue from there for 60 days. I have run into a lot of sportsmen's angles.

I have a definition for them on my front that probably doesn't agree with most commissioners. You find the "screwball" just about fills it and that has reference to a lot of things.

We have got to look at the situation from sound conservation, from sportsmen, because like I am, I have about three million experts. I say again in reiteration, strike for a date in between September 16 and October 1. Possibly a medium line of about September 21 to 25 and continue through for 60 days. Leave the half an hour out of the picture entirely.

Mr. Hutton: Well, I guess we have heard from the northern zone. Of course, South Dakota doesn't know as yet which they want in. There is Iowa, Illinois, and Missouri, and Nebraska.

Mr. Strunk: We are getting too much yelling and I think they have got a perfect right to yell because a lot of teal shooting is over. We are not striking that thing. The teal shooting can stand an opening.

Mr. Hutton: In the northern zone say the 21st of September, fifteen days later would be acceptable out in the intermediate zone. I wonder if we can't kind of decide.

Mr. O'Connell: As far as Nebraska our commission hasn't definitely made a recommendation on this and probably won't until a little later. But we have discussed it informally. We do feel if there is any concessions to be made in liberalizing it ought to be a little earlier in the morning. Now then after the government makes the mid-summer survey, if in their opinion and wisdom, I don't think we'd object to following along on their recommendation on that, but I believe that we'd rather have a little earlier shooting in the morning rather than an extension of time.

Mr. Hutton: How about Missouri?

Mr. Bode: Speaking of extension of time on the shooting season, we in Missouri can't go along on an extension of time on the front end of the season as it closes too early as it has for a number of years. An extension of time wouldn't do us any good unless it came at the end of the season.

If the Survey determines after their summer session that their ducks will stand a liberalization, then I am sure Missouri will be happy to have an extension of 15 days at the end of the season in preference to early opening. It won't do us very much good at all unless the extension comes at the end. I don't think a few days one way or the other in regard to the time will make any difference. I don't think our hunters would accept the extension at any other time but the end. While we do have some clamor for extension all right; nevertheless, I feel that we in spite of the inconveniences that we have had to go through, the duck program has been working and we have been on the upgrade year after year with our ducks.

I just hate to wade in there in a year or two and create it anew because we would lose everything. We would be happy to have a 15 day extension but I'm afraid we'd have to ask for it on the back end of the season.

Mr. Hutton: Illinois is a long state. How about you?

Mr. Lynch: We are in the intermediate zone and we have a long state, about 500 miles. We are in favor of a sixty day season, starting about October 15. That will be just about a week later or about the time that we started last year was on the 22nd and fifteen days that would bring it up to about the 12th of December. We also believe that in view of the flyway in Illinois, and I don't know about the rest of the states being changed by these mechanical corn-pickers, the ducks fill all day during season and then come back to the lakes and rivers at night, that live decoys should be allowed. We have a heavy population of wood ducks and last year, although we didn't like to do it, we had to make several arrests on individuals who did not know what a wood duck was and Illinois would recommend that the wood duck, one or two, be of the restricted specie which is now canvassback, ruddy, bufflehead, or whatever it was prior to this year.

While we realize, of course, that we are not going to get it yet,

sportsmen in Illinois feel that due to the change in flyway and due to the fact that these ducks are in the cornfield that there is a lot of shooting spoiled and eventually with the increase in population of the ducks is there going to be any shooting in Illinois at all?

Some restricted baiting will have to be practiced or under a permit by the Federal Government if Illinois is going to have any duck hunting.

Last year the 45-day season would have been satisfactory provided that Illinois weather would have corresponded to that season. As a whole the duck season in Illinois was unsatisfactory. There were very few ducks killed.

Now in reference to feeding or baiting, as you may call it. We have a project under way with regard to the habits or the ducks in the Illinois River and Illinois is going to drop this year its request, until such time as that scientific project, so that we can find out in the Illinois River and then present something concrete to the Biological Survey. In other words the sportsmen in Illinois know and I know that it depends entirely upon the crop of ducks as to what the season is going to be. We still feel, as does South Dakota, that the directors of conservation if they want to give you a season, regardless of time, should have the authority when you should shoot. Were it not for the 137 wardens in Illinois there would be no law enforcement. However the Biological Survey had a sound argument that it would be impossible to enforce.

Now, as you know, Illinois always comes to the convention and they always say that we are game hogs, killers, etc., but that is untrue and I think in the last six or seven years we have proved it to everybody in the United States that we have been one state that has gone along in the law enforcement. We gave to the Biological Survey and the Federal Government facilities and enforced the laws as handed down by the Biological Survey.

I realize the problem of South Dakota because I have the same problem. Last year for the first time Illinois was made a concession and that concession didn't affect any other state. It was merely that the Biological Survey allowed Illinois to have a special season on coots in certain counties in the northern part of the state. Now in those counties in which the concession was granted there was no duck hunting to amount to. Very few ducks are shot and they do have an overpopulation of coots and the people in that territory and the people around in the suburbs and the cities would just as soon go coot shooting as hunting ducks. Now this seems a little far fetched because the hunters in the southern section of the state just shoot them and let them lay. We are going to ask again this year for that concession on the coot in Illinois. Now I understand that the sportsmen of Wisconsin raised a howl about the concession that Illinois was given on this coot season and in order to secure this for Illinois I understand the sportsmen are going to ask for a longer season on geese. Did MacKenzie quit? We are going to ask again for that concession and I hope that none of the states that are in the northern zone will try to stop us from granting that concession because it does give the fellow out in Cicero and around there to go out, and if you'd see those fellows invade the northern end you'd really see something. They shoot each other trying to shoot a coot and that is all they ask for in the

matter if Migratory Waterfowl.

Now, I think that I have gone over most of the things that Illinois is going to ask for. We say that the bag limit remain the same. We'd like to have four decoys, that is, live decoys in the shooting stand. Now about the season; we don't know what the season will be because that will depend on the duck population. If the season is 30 days, we'd like to open on the first of November. If it's 45 days or 60 days about the same time that Missouri wants to open up. About the opening hour. I think that South Dakota said twenty-one out of twenty-five voted in favor of the sunrise opening. We have a heavy population at the present time. We would like to have an extension of time after four o'clock because we want to catch the ducks coming back off the fields into the lakes. We would just as soon have it open at seven in the morning.

Mr. Douglas: Mr. Chairman, I think the experience of this meeting has been wonderful and is winning everyone in agreement on this proposition. Here it is magnificent to find such unanimous ideas. We have got to find some appeasement for human emotions. We have got to leave one loop hole so they can get out but remember, we pass the right on to the Biological Survey and they can present it with ambition and support to the Game Commission. There is just one thing I would like to recommend to the Biological Survey, and I believe we'd all be unanimous in recommending that the Biological Survey change the flight of the ducks, one year down the Platte Valley and the next year down the South Platte and then the next year down the Missouri Valley. Then we'd have unanimous consent and everything would be beautiful.

Mr. Hutton: Mr. Schowob, would you speak for Iowa?

Mr. Schwob: Our commission hasn't taken any action on this proposition, but we had a very unsatisfactory season because of the fall. We had our first flight of ducks around the 21st of October. Personally the opening of the season on the 22nd was satisfactory to Iowa. I feel, as Mr. Bode, that if the Biological Survey, through their investigations find that we can stand an extension of the season to sixty days, I am sure that our commission will agree.

In this management problem and with reference to the refuges, Mr. Cluett mentioned, we have the same cry in Iowa since we had that poor season last year. We had quite an experience with several thousands of ducks on one of our refuges. They stayed over the winter with lead poisoning which they got. They didn't migrate and we were criticized severely. First, because we didn't feed those ducks. They had several thousand ducks on the refuge and we told them "no". That we couldn't afford to carry them through the winter. Well, finally Tom Scott and I went up and immediately found out that they had lead poisoning and most of them died.

With reference to this refuge problem, I think it would be a serious mistake if we ever do anything to impair refuges and the state refuge systems that several states have built up along this migratory waterfowl flyway. It is my opinion that if we ever get this refuge system com-

pleted so that it is actually is working, I don't care how long the season outside of the refuges is, because I think you are going to safeguard the birds with your refuge system and I think it would be a mistake to impair that refuge system.

We have people here now that are advocating to drive the ducks south. I am convinced in my mind that the first good blizzard will drive these healthy birds south. I don't know what we will do about that, but we have in Iowa the hunters wanting to start shooting at sunrise or half an hour before sunrise. They will be in the refuge before sunrise if you start shooting at sunrise. I don't think that makes any difference whether you start at sunrise. I don't think the duck take would make much difference. But I am sure that the commission would go along with the others in the 60-day season if the Biological Survey says it is the proper thing, and personally, I don't know how our commission feels, but I hope that they don't let the bars down on this refuge problem or system.

There is another question I agree with Mr. Lynch, that we have thousands of wood ducks on the Mississippi River. That is another problem that I would want to leave to the Biological Survey, not only on that River but on the Missouri and on all these other flyways. We are not interested in decoys the boys want, but I agree with Dr. Strunk, we are not going to get all the things we want. We will have to take the one that we want most and agree on that and recommend it to the Biological Survey or to the Department of Fish and Wildlife, so I second that resolution.

South Dakota: We want to go along on this restoration. I don't want you gentlemen to misunderstand us at all in advocating it. We felt that we were going out of our way to meet the extra kill that might result from the 60-day season. You can give them a 90-day season if you have weather like last year. You can give them a 60-day season and you won't kill any more ducks. I question the authenticity of this Survey on ducks that has been made. I got a bulletin where they claimed the flight in the Central Flyway showed a considerable decrease. I have 23 wardens out in the field. We took a duck census and I will put those boys up against the Biological Survey census takers. The newspapers were full of the big duck flights and goose flights through the eastern part of the state, and so I can't go along with them on that statement, that there was a big decrease in flights in the central flyway.

Mr. Hutton: Well, this organization for the last several years has made a recommendation to the Biological Survey. Whether or not we can come together on something definite or not I don't know.

It sounds like quite a few would be willing to go along with the 60-day season, providing they can get it. That seems to be kind of settled. Most of them would like an earlier hour. I doubt if they could get it, and there is some sentiment expressed to leave it to the Biological Survey.

I am just here to obtain whatever action the majority want. This ought to be a topic that should come up earlier in the session so a little more thought could be given to communion but we have it at the last now.

Most of these fellows are from the states, several of the commissioners are here and I am sure before any of them would want to decide, they may want to go into a huddle and talk it over a little bit.

Dr. Strunk: Mr. Chairman, after various commissions have talked this matter over, they should send the material for this year to some head ones and they should sit down with the Survey and talk it over in Washington. Just simply sit down and hammer it out and not sit in a corner. This is what we have decided on because of these facts and the Survey will listen.

Nebraska: But the policy of the Bureau has been to deal directly with each state. Now, if we press our points by sending in after our commission has taken action, I think we would get better results, because Mr. Gabrielson is coming right back to each state for their recommendation. I know he does that. He has got the problem on the basis of the forty-eight states as for recommendations.

South Dakota: Mr. Chairman, in regard to that phase of the proposition. We saw what we were up against and Henderson and everybody that we could get a hold of in Washington that had anything to do with the Biological Survey and they passed the duck problem right back to the meeting of last year. They said that the individual states made certain recommendations. They took the dates and they set them together, and they set October 1 as the northern zone opening and October 22 as the intermediate zone opening. Then they called up your directors and asked which they wanted. Ben was out there and I don't know who all was out there. We got hold of everybody that we could and that is the argument that they gave us fellows. That we should get to the meetings and make our recommendations.

Mr. Lynch: Mr. Chairman, I make a motion that this organization go on record in favor of a sixty-day season on waterfowl for 1940, providing that the crop will stand it.

Mr. Strunk: I second that motion.

Mr. Hutton: Motion made and seconded that the Midwest Association favor a sixty-day season for hunting duck and geese providing that the crop will permit it. We had not better have more than one vote from each state. Just one answer from each state.

Mr. Bode: Mr. Chairman, I suppose it's understood that others like me, can vote and I feel pretty certain that the Commission is with me, but they hold the power if they see fit to change.

Mr. Hutton: Roll call.

Illinois: Aye.

Minnesota: Aye.

Wisconsin: Aye.

Missouri: Aye.

Nebraska: We always try to be good neighbors to our friends of South Dakota. We will vote "yes" but must explain that our commission has not passed on it and so we can only vote "aye".

South Dakota: Aye.

North Dakota: Absent.

Kansas: Mr. Chairman, we have already made recommendations. Their recommendations were that the shooting hour be advanced one-half hour and that live decoys be permitted, and if the flight of supply of ducks is sufficient, to extend the season. So I think I vote "aye".

Iowa: I think Iowa will go along on that. It is unanimous now--that is on the length of the season.

Mr. Towrson: I should like to move a resolution, that if the Biological Survey accords the extended season that one week be added to each end of the season as it existed last year.

Mr. Hutton: Any second?

Mr. Lynch: I'll second it.

Mr. Hutton: Motion has been made and seconded that if we are allowed an extension over last year that one week be extended or added to each end. All in favor of the motion say "aye". I will call the roll.

Illinois: Aye.

Minnesota: Aye.

Wisconsin: Aye.

Missouri: Aye.

Nebraska: Aye.

Kansas: Aye.

Iowa: Aye.

Mr. Hutton: All right, we have got that settled. Now what is next--live decoys?

Missouri: Well, Mr. Chairman, I will tell you that Missouri originally recommended the use of live decoys. But we can just as well save putting it on paper because I don't think we have any chance of getting it.

Mr. Lynch: I move that a motion be made for the use of four live decoys.

Mr. Hutton: Any second to that motion? No second.

Any other motion or action on this subject?

Mr. Strunk: I move that we pray that the two things we have passed be handed down.

South Dakota: I move that we pass a resolution to set the opening for duck shooting a half hour before sunrise.

Motion Seconded.

Mr. Lynch: I make a motion or wish to amend the motion of the man from South Dakota to read until sunset.

Mr. Hutton: Any second to that motion? No second. I'd like to have a discussion on the motion now that we open a half hour before sunrise.

Mr. Strunk: Mr. Chairman, I think we should take one thing at a time. Here we have got one thing we are all agreed on; namely, sixty days and adding one week to each end. I think we are going to run into trouble.

Mr. Hutton: Any other discussion?

Nebraska: The only thing is that perhaps after the summer survey they couldn't give us the sixty days, which I think would meet with the approval of our sportsmen; so I don't see as it would do any harm to voice our opinion on it.

Mr. Strunk: If the duck hunting is not found to be adequate, but that we are asking for one thing at a time.

Mr. Towrson: In connection with these two various programs it appears to me that the lengthening of the season can be justified only on the assumption that there are more ducks. Now the same argument applied to opening the season at a half hour before sunrise.

Mr. Hutton: We didn't mention any reduction in the bag limit. There was no motion on it so far. If our motions are granted then that will be taken up by the states, is that it? I am still leaving the question of half an hour before sunrise shooting open for discussion.

Mr. Lynch: It is the tail end of the day that bothers our sportsmen.

Mr. Hutton: It's been moved and seconded that we recommend to the Biological Survey that the opening hour be moved up one-half hour before sunrise.

Roll call.

Illinois: No.

Iowa: Aye.

Minnesota: No.

Wisconsin: Aye.

Missouri: No.

Nebraska: Aye.

South Dakota: Aye.

Kansas: Mr. Chairman, I hardly know how to vote because I don't think, personally, that anybody can tell when it is a half an hour before sunrise. I'd rather see a certain time set for this earlier hour. I will vote "aye".

Mr. Hutton: There are five "ayes" and three "noes".

Mr. Bode: Mr. Chairman, may I have the privilege of entering an explanatory statement into the record. Does this apply to just ducks or to geese?

Mr. Hutton: Both. That is understood and there is no objection. You are raising the point of the wood duck.

Mr. Lynch: Mr. Chairman, I believe in favor of including the wood duck in the restricted specie. I just wanted to know how many in the Midwest would vote "yes" and "no".

Mr. Towrson: In regard to the wood duck. I attended a conference of the Biological Survey at Washington D. C. Some of you undoubtedly were there. You will recall that a speaker of the Biological Survey made the statement that, in his opinion, the wood duck might well be included in the restricted species during the next season. I think that is the present attitude of the Biological Survey. I just pass the information on . Now it is my opinion that there is a surplus of birds.

Mr. Lynch: That is right.

Mr. Hutton: Well, now do you want a poll of how the states feel about the wood duck situation? I mean to just include it in the present bag restriction species.

Mr. Lynch: I move that one or two be included in the bag of ten ducks the same as you do for the rest of the restricted species. These to be included in the restricted species of 1940.

Missouri: I second that motion, that is that it be recommended to the Biological Survey that they be included in the restricted species.

Mr. Hutton: Roll call.

Illinois: Aye.

Iowa: Aye.

Minnesota: Aye.

Wisconsin: We will leave that up to the Biological Survey.

Missouri: Aye.

Nebraska: Aye.

South Dakota: Aye.

Kansas: Aye.

Mr. Hutton: Motion carried. Well, now as to the coot season in Illinois and the opinion of the Midwest Association; I have no objection. How many have no objection to a coot season in Illinois? That is before your regular duck season, isn't that it, Mr. Lynch?

Mr. Lynch: There is no objection to opening of it in the Midwest so far as the Biological Survey is concerned. I think they will tell you that it was handled satisfactorily.

There was no ducks to any great extent shot and we sent in enough wardens to take care of that. It is just a few northern counties. I understand there has been some opposition to it, not because of the season, but simply because we were giving that concession.

Mr. Hutton: I will ask each state. Does Iowa have any objection to Illinois shooting coot?

Iowa: No.

Minnesota: No.

Wisconsin: Well, due to the fact that it is Illinois, I will have to vote "aye".

Missouri: No.

Nebraska: Well, our delegation is badly split. One of the delegates wants it to read "cooties". No objection.

South Dakota: No.

Kansas: No.

Mr. Cluett: Mr. Chairman, one more thing, we have been having meetings,

and, looking on the "blues" side of this extension of time, if we do get a short season we will be in the same position that we were in regard to the shooting season. I was wondering if it would be too much out of line to ask for a ten day extra season for the goose hunters. I wonder if this organization would support such a plan. That would settle our difficulties.

Iowa: Personally, I think each state is going to be requested for their own recommendations from the Biological Survey.

Mr. Bode: Mr. Chairman, I move that inasmuch as North Dakota is a member of the Resolutions Committee, that they be permitted the right of absentee voting on these resolutions.

Iowa: I second that motion.

Mr. Hutton: The motion is made and seconded that, inasmuch as North Dakota is not represented, be requested to vote by absentee ballot.

All in favor of permitting North Dakota to cast their letter ballot on these resolutions hold up their hands. Motion carried.

Mr. Lynch: Mr. Chairman, I'd like to make the motion that the time of four o'clock be extended to sunset.

Mr. Hutton: I hear no second to that motion, so it fails for loss of second.

Mr. Lynch: That is all.

Mr. Hutton: I think we have come to the end of the open discussion. Next will be the executive session.

We will have a ten minute recess now.

RECESS

(Explanation of voting on early shooting.)

Mr. Bode: Voting "no" was not because our hunters would not appreciate the earlier opening but because of the belief that we will have a much better chance of getting an extended season if we do not make too many requests for other concessions.

EXECUTIVE SESSION

Mr. Hutton: I am going to skip for the present the report of the Committees. I talked to Mr. Josserand of Kansas about joining the organization and his thought was that if the Association desired to invite them to join, he would be glad to have such an invitation to present to his Commission.

If the Association sees fit to, then the proper invitation should be extended to the Kansas Commission and they would have to ratify it.

Mr. Bode: I move that Kansas be extended an invitation to join the Midwest Association.

Mr. Swift: I second that motion.

Mr. Hutton: All in favor say "aye".

Motion carried.

Then the report of the Committees. Now, I will read a letter from Mr. Adams, the Secretary-treasurer, who wasn't able to attend and which is probably partly my fault because I didn't give him enough notice ahead of time. I understand he is not with the South Dakota organization any more. Back in March I had some correspondence with him about the state of finances. He wrote this letter back that can be considered a report. I saw no particular need for electing a new secretary-treasurer right in the middle of the year.

Now this is the report of the secretary-treasurer, that we have $30.29 in the treasury. There has been some expense incurred. We have employed this gentleman to take down the notes and there will be some expense in getting out the proceedings. After he makes the rough copy of the proceedings, we will take it into our Des Moines office and send out copies of the proceedings. Now, we haven't any idea how many we shall have to prepare. Can you tell me, Mr. Swift?

Mr. Swift: I can't recall. There were a certain amount of requests over and above the states associated. Quite a complete number were sent to the various federal agencies, both in the locality and to Washington. In other words, I think we sent to Washington and then to Milwaukee, the Forest Service, the Soil Conservation Service, the Biological Survey, and to those representatives who actually attended.

Mr. Hutton: Well, is it necessary to send one to each one. I would think just to the office. It is expensive to make these copies.

Mr. Bode: I would like to have enough, at least, for our commissioners.

South Dakota: We'd like to have one apiece at least and we'd be willing to, if the commission is willing, pay any expenses in connection with it.

Mr. Swift: Gentlemen, for several years the Association had stationery and whenever a new president was elected, new stationery was made up, and there was always so much unused stationery. I think we should make it up in the name of the Association rather than the individual so that it would be used among us all without the expense of having to have new stationery made up. I think it would keep the Association together if we had something designated along this angle.

When you write people out of this Association with the Game and

Fish Department in that stencil in the center of the page showing the states and who they are, I think it brings home that there is a definite Association.

Mr. Hutton: Would you like to make a motion in regard to obtaining stationery in that way?

Mr. Swift: I make that motion.

Mr. Bode: I second it.

Mr. Hutton: Motion made and seconded that stationery be obtained pertaining to the Midwest Game and Fish Commission and so arranged that it would be usable year after year.

All in favor say "aye".

Motion carried.

Now there will be the report of the Resolutions Committee.

Mr. Swift: Mr. Chairman, Dr. Strunk said he would report but he doesn't seem to be here now. He has probably left. I don't remember what it was that he wanted but he said he had it all ready.

Mr. Hutton: I think there ought to be and I think it is customary, to thank the hotel for the accommodations provided. This room has cost nothing for its use.

Mr. Bode: I make that motion, thanking the hotel.

Mr. Swift: I second that motion.

Mr. Bode: I think we should also include the Iowa Commissioners and the Iowa Officers for the courtesy they extended in that same resolution.

Mr. Hutton: There is another thought, that the Clear Lake Commercial Club be included and other agencies which helped in any way. Also all others that ought to be included in this motion.

Carried.

Next we will have the report of the Nominating Committee.

Mr. O'Connell: Looking over the records of our Association, we find that there are several states that have not had a president and so in order to make that valuable, not only to pass it around to different groups, but also to acquaint the different commissions with the physical part of the states that are in the Association. We hope, of course, to visit all these states.

Your nominating committee respectfully nominates the following for of-

ficers of your Associafion.

President----------I. T. Bode, Missouri

Vice President----------Lewis Martin, Illinois

Secretary-treasurer-----Fred Schwob, Iowa

Directors:

Wm. J. Lowe, North Dakota

J. B. Douglas, Nebraska

J. W. Cluett, South Dakota

Ernest Swift, Wisconsin

Dr. W. L. Strunk, Minnesota

Guy Josserand, Kansas

That gives us one officer or director from each state. I move the acceptance of the Nominating Committee's Report.

Mr. Cluett: I second that motion.

Mr. Hutton: It's been moved and seconded that it be accepted.

Mr. Bode: Mr. Chairman, I would like it very much if somebody else can be made president. While I appreciate the honor very much, I feel that I cannot give justice to my work as president because I have two possible conventions coming up during the coming year and also other meetings and I doubt whether I can give this Association the attention that should be given. I would like that I be relieved because I just feel that I just can't give it the service.

Mr. O'Connell: I don't believe it would take a lot of time, Mr. Bode, except during the time of the meeting. It will be very small. At least that was my experience.

Mr. Hutton: Well, I just put in a little time before the meeting.

Mr. Swift: If you get your program lined up in April there isn't much to do until the meeting.

Mr. Bode: Well, I just don't like to do a half job.

Mr. O'Connell: Mr. Bode will handle the job all right. We hope that he can accept it.

Mr. Hutton: All in favor of the motion say "aye". Contrary.

Motion carried.

Well, I want to take this last opportunity to thank the members of this Association for their cooperation. I hope I didn't do too bad a job.

Mr. Swift: Gentlemen, let's not let this Association dissolve. I think it is very important you subscribe to that, O'Connell, and we shouldn't under any consideration dissolve. I think it is one of the tie-ups that different states have in bringing together their problems to this Association.

Mr. Bode: I think that is absolutely right and we feel that we really get more out of it than we do out of other meetings by several times. Here practically everything brought up is of vital interest to our commissions, and many things come up that are invaluable to us.

Mr. O'Connell: I move that the secretary cast a unanimous vote for the new officers in order to duly elect them.

Motion Seconded.

Mr. Hutton: Motion made and seconded that the secretary cast a unanimous vote for the officers named by the Nominating Committee.

Motion Carried.

Mr. O'Connell: Mr. Chairman, I'd like to make another motion to this effect that the convention extend their thanks to the retiring president for the good job that he has done. You will signify by saying "aye".

Unanimously carried.

South Dakota: Take the motion made by Mr. Swift which was that it be the sentiment of this Association that every effort be put forth in vigor and that the Association not be allowed to dissolve.

Nebraska: I second that motion.

Mr. Bode: It's been moved and seconded. Any discussion.

If not, signify by saying "aye".

Motion carried.

Do you know what the substance was in that resolution Mr. Strunk was to prepare, Mr. Swift?

Mr. Swift: He's got it written down. It was a very brief statement. It was to the effect that a resolution be presented to the National Fish and Wildlife Service that no fish be planted in state waters by Federal Agencies except by the consent of the duly authorized state agencies. That was the motion that Dr. Strunk wanted to present. That is to include any fish taken out also, from state waters.

Mr. Bode: Would it be satisfactory to the organization to adopt the subject

matter in principle and permit Dr. Strunk to word the detailed resolution for the record.

Mr. Swift: As far as Wisconsin is concerned, I am willing to pass on the resolution the way Dr. Strunk indicated and let him present it to the bureau. (See appendix--2)

South Dakota: We'd be willing to.

Mr. Bode: Is there any objection to that proceedure?

Mr. Swift: I would so move.

South Dakota: I second that motion.

Mr. Bode: It's been moved and seconded that we adopt the resolution and call upon Dr. Strunk and send proper matter to the organization concerning any discussion.

All in favor signify by saying "aye". Contrary.

Motion carried.

Now is there any business to come before the conference breaks up? This is the last chance. If not the conference will stand adjourned.

ADJOURNED

(Prepared by:
Iowa Conservation Department
Des Moines, Iowa)

7:29:40
eb

1.

THE MOURNING DOVE IN SOUTHWESTERN IOWA

By

H. Elliott McClure

The Iowa mourning dove study has been made possible through the cooperation of the Fish and Wildlife Service (U.S. Dept. of the Interior), Iowa State Conservation Commission, Iowa State College and American Wildlife Institute. The research was carried on under the supervision of Dr. Geo. O. Hendrickson, Iowa State College, and Thomas G. Scott, U. S. Fish and Wildlife Service.

The object of three years of obervations at Lewis, Iowa has been to determine the production of the mourning dove in this area and to discover management practices which would increase them. Production in Cass County during 1938 and 1939 averaged about 300,000 birds including the 75,000 adults that returned each year. Since the bird is predominately a town and farmyard nesting bird, 62.1 percent of the young were raised in towns, 23.8 percent in farmyards, and only 14.1 percent in the open country. In favorable nesting locations concentrations of the birds become very high, as many as one hundred nests in one farmyard. The average number of nests per acre in town was 7.6 and at farmyards 12.2, while away from towns and farm lots the concentration was only about one nest to ten acres.

During 1938 and 1939, 2551 nests were observed and these were used 3439 times by the doves. Nests were built in a variety of places including on the ground, on stumps, in eaves troughs, and on power transformers, but the most usual place was in a horizontal crotch of some tree. Thirty species of trees were used at Lewis and its vicinity and of these the American Elm, box elder, soft maple, apple and red pine were the most important. Nests were placed in trees of all sizes and at all distances from the ground, but the average tree used was 19 inches in diameter, the nest was usually about 20 feet high and on a crotch ten feet out from the trunk. The side of the tree in which the nests are built depends upon the available crotches and upon the direction of strong winds. During periods of strong south winds more nests are built on the north. A great many nests are placed in old nests of other birds. Robin, bronzed grackle, and bluejay nests were most commonly used. Twenty-five percent more of the nests placed in other bird nests were successful than those which were built in crotches.

Nest building usually begins from the middle of March to the first of April and continues into September. The last young do not leave their nests until the middle of October. The number of eggs placed in a nest is generally two, although there may be from one to five. About 62 percent of the eggs hatch, the remainder being destroyed by storms, bluejays, squirrels, etc. Length of incubation is between 12 and 15 days and averages 13 days. The male bird incubates during the day between 8 a.m. and 4 p.m., while the female incubates from 4 p.m. to 8 a.m. Of course, these hours are altered by individual pairs.

When the young hatch they weigh about five grams. Increase in weight is very rapid and they reach 70 grams by the fourteenth day after hatching and are then fully feathered and strong enough to leave the nest. Length of juvenile life is shorter, about 10 to 12 days, for single young, but young in nests containing three may take 15 to 17 days to develop. Young are fed about 7 a.m., noon and 4 p.m. by the parents who regurgitate seeds and pigeon milk from their crops into the mouths of the young. Pigeon milk is secreted by glands in the wall of the crop and the seeds taken at Lewis included those of 50 species of plants. Grass seeds, hemp, ragweed, and wheat are important in the diet. Calcium and salt are furnished by tiny snails which the adults pick up and gravel is eaten along roadsides morning and evening. The adults drink from streams, ponds and puddles and visit them morning and evening. Adult birds weigh between 120 and 130 grams.

Young doves are much less subject to destruction than eggs and about 87 percent of them are successful in leaving the nest. They are destroyed by storms, bluejays, and cats. After leaving the nest young birds are fed for several days by the parents, but in decreasing amounts so that they must forage for themselves. They are gregarious, and young from several nests will roost on the ground together, which makes them susceptible to predation by cats.

After rearing one family the parents turn immediately to another, often having fresh eggs in a nest while still caring for their previous offsprings. At Lewis 25 percent of the nests were used again by the same birds that reared young in them previously. Thirty-five percent of the nests were built in trees that either had active nests in them or had been used by doves during the season. Only certain crotches in trees seem satisfactory as nesting sites for 50 percent of the crotches used in 1938 were used again in 1939.

The peak of nest building occurs in June or July depending upon weather. This is followed by a lessening of activity in August, and again depending upon the weather nest building usually increases during the first of September. From the middle of July on until fall young birds begin migrating south as soon as they are strong enough. As the hunting season in states south of Iowa is opened either September 1 or 15, some of these young birds are killed while their parents are still raising their brothers and sisters in Iowa. Hence Iowa serves as a spring from which a steady stream of young birds flows southward.

There are from three to four broods of young a year in southwestern Iowa and each breeding pair builds an average six nests during the summer. Nesting success averaged 50 percent and for each successful nest the average young reared was 1.8. Since the dove nests so late in the season 25 percent of the young do not leave their nests until after September 1. The breeding population trebles itself each year, hence if 25 percent come back each spring the population will remain normal; or the birds raised after September 1 would be sufficient to maintain the population. This is taking into account only young leaving the nests, since the percentage of mortality after nest life is still unknown.

By October 30 all of the birds that are going south have apparently done so and then Iowa is left with an over-wintering population of about 1 percent the summer numbers. These birds roost in protected lees of bluffs and feed in hemp and weed patches.

Migration takes the birds as far east as Louisiana and as far west as western Texas. No bands have been received beyond these points. How far south they go is conjectural, since one band was returned from San Salvador, Central America. The bulk of band returns come from Texas, but this indicates only that hunting is heavy there and does not indicate that the birds go no farther south.

Of the deciduous trees in the observation area American elms are the preferred nesting trees and of the evergreen species present red pines are preferred, hence it is believed that an increase in these trees would increase the doves. During the past three years loss of trees by death and cutting has tended to crowd the birds into smaller and smaller nesting areas. How long this can go on without a reduction in birds is not known. At Lewis 300 young American elms were planted in May of 1940 with the idea of eventually offering more nesting sites for the birds. This nearly doubled the number of elms in town. Evergreens are highly desirable as early spring nesting sites and should be planted.

In order to increase doves around farmyards it is suggested that more orchards and more evergreen wind breaks be planted. Chinese elms are undesirable as nesting places and make undesirable winter windbreaks, so their planting should be discouraged.

Cats, bluejays and fox squirrels in that order are the worst predators of doves and should be maintained at reasonable populations. At Lewis a population of one cat to one and one-half acres, one squirrel to one and one-half acres, and one bluejay to five acres is much too high and predation is heavy. Populations lower than these would be desirable.

Although most communities have laws or ordinances against shooting birds, it should be advocated that these be either passed or more stringently enforced. Bird clubs, conservation groups and scout activities in school and among townspeople create the proper attitude toward all species of birds and thereby aid in the increase of doves.

iv.

2.

St. Paul, Minn.
July 29, 1940

Mr. M. L. Hutton
State Conservation Director
Des Moines, Iowa

My dear Mr. Hutton:

Replying to your letter of July 1st, the resolution referred to was as follows:

"BE IT RESOLVED that the Federal Fish and Wildlife Service be requested by Commissioners of the various states involved to in every way cooperate with the individual states relative to the distribution of fish raised in federal hatcheries so as to prevent an unstable condition and a mix-up from arising in connection with the fish propagation efforts of the individual state conservation departments.

"BE IT FURTHER RESOLVED that prior to granting a request for the distribution of fish from federal hatcheries, the superintendent of that hatchery should contact the Director of the Division of Game and Fish of the state involved in order to unify efforts of distribution of both state and federal authorities."

With kindest personal regards, I am

Very truly yours,

William L. Strunk
Commissioner of Conservation

WLS/R

P.S. Copy of this resolution has been forwarded to Mr. Bode.

WLS

Errata: On page 15, third line from bottom the wording should be "21,800 acres" instead of "28 hundred acres".

In connection with the foregoing proceedings other errors may exist but time does not permit submitting the statements of each speaker to him for editing before mimeographing. It is hoped no serious misquotations or errors do exist.

The following is the list of those in attendance.

Illinois

Thos. J. Lynch, Springfield, Illinois
F. D. Hunt, Sterling, Illinois
Anton J. Tomasek, Springfield, Illinois
Lewis E. Martin, Springfield, Illinois

Iowa

M. L. Hutton, Des Moines, Iowa
R. W. Barsalow, Des Moines, Iowa
J. Z. Stevens, Clear Lake, Iowa
Ray Butler, Clear Lake, Iowa
Geo. Killinger, Burlington, Iowa
K. M. Rooker, Davenport, Iowa
R. E. Stewart, Ottumwa, Iowa
Mrs. Addison Parker, Des Moines, Iowa
Verne H. Peterson, Clear Lake, Iowa
R. B. Wheeler, Des Moines, Iowa
J. D. Lowe, Algona, Iowa
E. V. Pierce, Algona, Iowa
W. A. Bents, Cresco, Iowa
W. E. Albert, Lansing, Iowa
Lloyd Smith, Des Moines, Iowa
K. M. Krezek, Des Moines, Iowa
W. W. Aitkin, Des Moines, Iowa
V. W. Flickinger, Des Moines, Iowa
F. T. Schwob, Des Moines, Iowa
E. B. Speaker, Des Moines, Iowa
Taylor Huston, Des Moines, Iowa

Minnesota

W. L. Strunk, St. Paul, Minnesota
L. E. Fierco, St. Paul, Minnesota
Lloyd L. Smith, St. Paul, Minnesota
Gordon Fredine, St. Paul, Minnesota
Mandt Towrson, St. Paul, Minnesota

Missouri

I. T. Bode, Jefferson City, Missouri
Asbury Roberts, Jefferson City, Missouri