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WATERFOWL MANAGEMENT—WHAT OF THE FUTURE?

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Most of us here are painfully aware of the extent to which our duck populations have declined the last few years. Many species are at or below their lowest level of the past 10 to 15 years. It is obvious, of course, that a major cause of this decline is the deterioration of the prairie breeding grounds where over half the continental duck population has been produced. Loss of production from this formerly prime area is amply documented from breeding ground surveys (Crissey, 1960) and age composition studies (Geis and Carney, 1961; Bellrose, Scott, Hawkins and Low, 1961). Not to be discounted, however, is the effect of the gun. Unfortunately, we haven't analyzed fully the wealth of banding, kill and population data which would give us much-needed information on the effect of the kill on populations. However, analysis of data on the canvasback (Geis, 1959), indicates that hunting is taking close to the maximum allowable, if not more, in some years. The black duck, so important to the Atlantic Flyway, has declined drastically in spite of the fact that its nesting grounds have not been seriously affected by drought and drainage and age ratios in the kill do not suggest poor production. The evidence here is that the hunting kill could well be the primary factor suppressing the black duck population.

PROBABLE TRENDS

History shows that waterfowl populations in the past have increased and decreased in response to precipitation cycles of the United States and Canadian prairies. It is expected that this pattern will continue in the future and that present populations can build up again. Conditions today, however, are different from the distant past and will be in the future, in that man's activities will likely continue to cause major changes in quantity and distribution of waterfowl habitat.

The human population of the United States alone may reach 300 million by the year 2000 if present trends continue. Undoubtedly Canada also will experience a continued population expansion. There will be a continuing pressure for more land for homesites, factories and roads. More food will have to be produced and more land will be required for the growing of crops. Under such a situation we can expect a continuing loss of waterfowl habitat.

Furthermore, with a major increase in the human population and the continuing loss of habitat, we will have on the one hand an expanding demand for hunting opportunity and on the other an ever-dwindling area in which hunting can be done. The reservoir of potential waterfowl hunters will continue to grow and the latent hunting pressure will be ever ready to express itself if and when the opportunity develops. Competition for quality hunting space will become ever greater.

To me this can add up to an increasing shortage of ducks, of duck habitat and space for the hunter. Duck populations will continue to rise and fall but probably subsequent population peaks and depressions will be of a different magnitude and character than formerly.

WHAT CAN WE DO ABOUT IT?

Management goals have been set up by the Bureau and Flyway Councils which aim at maintaining populations within the range experienced during the period 1948-57. This is a worthy objective, but its attainment will not be easy nor simple. It is reasonable to believe, however, that

through concerted and aggressive action we can develop and maintain, for some years to come, conditions necessary to accomplish our objective.

In order to attain the population and habitat goals desired, action must be taken to stop, reverse or counter the destructive man-made forces at work and launch on a more positive program of management. The problems involved might be grouped into two general categories:

1. Those concerned with habitat.
2. Those concerned with the birds and their harvest.

Under these two categories the actions that might or should be taken are as follows.

HABITAT

1. The sport of waterfowling is becoming an increasingly expensive activity to those who participate. Of Course, the hunter alone is not the only citizen who gets recreational enjoyment out of the resource but he must be expected to pay something for his sport over and above the cost of guns, shells and other similar expenses. Although all citizens should have an obligation to help finance the preservation of waterfowl and other wildlife resources, the waterfowl hunter must expect his hunting to cost more in the future.

Waterfowl needs are frequently in competition with other uses of land and if these lands are of vital importance to the perpetuation and management of a harvestable resource, waterfowl interests must expect to pay for the cost of keeping such lands for waterfowl and waterfowl hunting. Of course, the Bureau and the States cannot hope to acquire all the lands and waters needed to perpetuate populations and hunting opportunity comparable to that of the early fifties. However, waterfowl agencies here and in Canada can acquire key or strategic migration and wintering areas by outright purchase and through easements or other means preserve habitat in critical production areas, particularly the prairie potholes of Canada. The latter, of course, is pressing and solutions must be found for the preservation of the Canadian prairie pothole habitat because it is not conceivable that any other practical habitat management measure could compensate for its loss.

2. Waterfowl, like all forms of wildlife, are a product of the land, and the major land-use practices employed have an important influence on the abundance and distribution of the birds. Man's land and water management programs of the past have more often than not been pointed toward special or limited objectives. Until recent years there hasn't been much concern about multiple use or about other people and other forms of wildlife which might be affected by a particular program. This goes for waterfowl agencies as well as agriculture, forestry and others.

An important help in the management of the waterfowl resource would be the inclusion of waterfowl values (among others) in the land and water-use planning and programs of all agencies. Much progress has been made in recent years by a number of land-use agencies in carrying out a multiple use policy. Waterfowl interests must be ever alert to waterfowl habitat and management possibilities in these programs and assist in their development wherever possible. In some instances the drafting and support of specific legislative bills in Congress may be necessary.

3. We must be more efficient in our land management. By this I mean we must find practical ways and means to produce two or more ducks where one is now produced. This is a real challenge to research and the ingenuity of the land manager. To be really effective, more ducks will have to be raised not only on publicly owned areas but on private lands as well. Such a program may not have a significant effect on the continental population but could be of importance in regard to local populations.

THE BIRDS AND THEIR HARVEST

Certain economies in the harvest should be employed. Correction of some undesirable practices could conceivably add many thousands of birds to the harvest which would mean additional recreation for many people. Briefly some of the important steps that must or should be taken are as follows:

1. If we are to have maximum utilization of the resource and at the same time preserve critical species, we have to manage more intensively

by species. The key to effective species management is a well-informed hunting public. Not only must it be necessary that hunters be able to identify the species of birds being hunted, but there must be also a widespread compliance with the rules and regulations of the sport. Such can come about only through an intensive information and education program on a continuing basis, together with a greatly stepped-up research program to get the facts needed.

Along the line, there is much to be said for the system reportedly used in some European countries (Schulze, 1955) whereby a period of schooling and the passing of a qualifying examination is required before a person can be licensed to take a gun in the field. In time, some such system may be necessary in America not only for the safety of hunters and the public but also for effective management of the resource.

2. Ways and means must be found to reduce crippling loss. The unretrieved component of the kill is usually reported in the Bureau's Mail Survey (Crissey 1960) to average about 25 percent of the retrieved kill. A 25 percent crippling loss figure is believed by many to be conservative. Certainly the percent loss varies considerably from area to area.

Probably crippling loss cannot be eliminated entirely, but this is one area where a major saving of birds could be made. Cutting crippling losses in half would be roughly the equivalent of adding the duck production of the United States to the retrieved kill. What the most effective way or ways to reduce shooting losses are, I am not prepared to say, but prohibiting the shooting of birds in certain areas or under certain conditions and developing a stepped-up hunter educational program which would encourage self policing under laws concerning wanton waste, would be desirable and necessary.

3. Prohibit the use of lead shot in the hunting of waterfowl, or require that if lead is used it be treated in such a manner as to make it unavailable or harmless to waterfowl when taken internally. Studies by Bellrose (1959) on the incidence and effect of lead poisoning in ducks indicate that approximately 5 percent of the mallard population of the Mississippi Flyway dies as a result of lead poisoning annually. There is much research yet to be done before we have the final word on the true effect of lead poisoning on wild birds. The effect of this poisoning can be quite subtle and go largely undetected unless there happens to be a combination of circumstances which creates a large-scale die-off readily noticed by people. However, accepting the 5 percent figure for the present we find that the number of ducks involved is roughly equivalent to the mallard production of southern Manitoba. Furthermore, losses from lead poisoning would exceed the production of ducks on all State and federal management areas. Some duck populations might be more adversely affected than others, such as certain divers in areas where shooting over bait is a common and widespread practice. It may be assume also that with the ever-increasing concentration of ducks and hunters, lead poisoning will become an even more serious problem.

CONCLUSION

These, then, are the six items considered of first-rate importance in an action program for the future.

1. Control the management of important waterfowl areas through purchase, lease or easement, where necessary.
2. Provide for enhancement of waterfowl values in all land and water-use programs.
3. Develop and apply techniques which produce more ducks per acre of habitat.
4. Develop and apply techniques which will permit more intensive species management.
5. Drastically reduce crippling loss.
6. Eliminate the use of lead shot or if lead is used require that it be treated in such a manner as to make it unavailable or rendered harmless to waterfowl when ingested.

The implementation of such a program cannot be expected overnight because a basic and necessary part concerns a large-scale and continuing research and I and E program. Also, in the final analysis, the scope and success of the program will depend on the interest and support of the United States and Canadian hunters and the public.

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MEASURING DOVE HARVEST BY HUNTING FIELD TYPES

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The 1960 inclusion of "normal agricultural plantings" in the permitted hunting methods of the Migratory Bird Hunting Regulations caused some concern to Fish & Wildlife Service personnel located in Atlanta. As a result, it was decided that an effort would be made to measure the amount of hunting success and the volume of hunting performed over normal plantings. In addition, an effort was made to measure also the volume and degree of hunting success over several other kinds of commonly hunted fields.

In late summer, a form was hastily devised, printed and distributed to Game Management Agents in the Southeastern States. They, in turn, were requested to enlist all the help they could of State enforcement personnel in their districts. In addition, L. E. Foote, Wildlife Management Institute, provided members of the Southeastern Technical Dove Committee with a few forms and requested their assistance.

In spite of the late start in getting the project under way, and the lack of adequate time to properly brief all people helping in the matter, personnel of eight State Game Departments contributed information in varying amounts. Maryland, North Carolina, South Carolina and Kentucky printed additional forms and obtained excellent coverage of their dove hunting activities. These States reported 86% of all hunters checked by personnel of all participating States, and 58% of the 20,864 hunters checked by combined Federal and State personnel.

Attached to this report are Tables I and II and a Kill Data Chart showing the results of the pilot study made in 1960. These are included here to indicate the type of information which, when accurately gathered and properly interpreted, can be of great value when considering regulations as they relate to control of the dove harvest through anti-baiting rules.

In the 1960 figures, two major biases are recognized. First, a judgment sample, rather than one of random nature, caused some error in results obtained. We hasten to add, however, that perhaps the judgment error isn't as great as some would think, since a large proportion of the dove shoots checked by officers were located by a general patrol of dove hunting areas. When doing so, officers drive two or three miles, stop the car and listen. If shooting is heard, they then go to it, using the sound of the guns as a guide.