

Commission has not entered such a program on a short-time plan, and, only through an enlightened, cooperative public can such a program produce game for the hunter on a sustained, long-range basis.

PRESENT STATUS OF MOURNING DOVE INVESTIGATIONS

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Ten of the southeastern states initiated a 3½ year Cooperative Dove study in 1948 and 1949. As this project progressed, it was extended into northern states to provide information from all areas producing birds for southeastern hunters. The study was extended gradually westward to the 100° meridian, and then to the 104° meridian. Near the conclusion of the southeastern study all of the western states were brought into the Mourning Dove investigations.

This nation-wide cooperation has been the largest unified effort ever conducted on a single game species. Results of the studies were made available continually to all participants and interested persons through Mourning Dove Newsletters and memoranda. Since the main southeastern study was terminated in 1952 a number of the original cooperating states have published summaries of their participation. However, the comprehensive dove report summarizing data to June 30, 1952, has not been printed yet.

The southeastern dove study resulted in four recommendations for guidance of the cooperating states, and all other states interested in dove hunting, for continuing dove investigations:

1. *The annual call count* along standardized routes to be conducted between May 20 and June 10 to provide a yearly index to the dove breeding population.
2. *Random road counts* monthly from July to January inclusive to provide necessary information on production and migration.
3. *Continuation of banding* especially through establishment of permanent banding stations and segment banding.
4. *Hunter bag checks* to provide information on kill, hunter success, juvenile-adult ratio, and the number of feeding adults.

These were the recommendations. Let us see how they have been followed. The call count is the only one of the four suggestions which has been continued annually by all states. During each of the past two years, 44 states have participated by running over 700 call count routes. This has been proven to be the most reliable population index and it has been adopted uniformly. As an annual operational procedure, the Branch of Game Management has assumed responsibility for contacting state game departments to arrange jointly for covering all routes and will analyze the results. During this summer the Branch of Wildlife Research has conducted a land-use survey of all call count routes, often with the aid of selected state biologists. This study will result in recommendations for redistribution of some routes to better sample ecological habitats or life zones, and provide better geographical distribution to yield a more reliable index to the dove breeding population of the individual states and of the entire country.

Only a few states are presently conducting random road counts. We believe all states, especially those which hunt doves, should undertake road counts to secure much needed information on production and migration. These can be made without additional cost by recording doves observed during routine travel. They are especially important during the months from July to January inclusive, by helping to provide figures on the dove population available to the gun.

Several states are still emphasizing banding, some of nestlings and some of population segments. But dove banding has fallen off alarmingly. This seems

strange since many important data have been derived from recoveries of banded doves, and there is a continual need for such information. As one illustration: an analysis of recoveries has indicated dove migration may be divided into three flyways. An eastern flyway to include all states east of the Mississippi River, a central flyway to include the next two tiers of states, to approximately the 104° meridian; and a western flyway to include all states west of the 104° meridian. This offers a possibility of regulating doves according to their flight paths, but additional data are needed. Consequently this service has instituted a five-year program of dove nestling banding to provide much needed information on the source of origin of doves killed in each hunting state. Considerable assistance will be necessary to insure the success of this program and we request cooperation from all states, institutions, and interested individuals.

No uniform or widespread hunter bag checks are being made by the 29 dove hunting states. Some are assigning enforcement officers and/or biologists to gather such information. We hope that a statistically sound bag check method may eventually be found and universally adopted. Meanwhile it seems that all agencies should gather some information, especially when changes in hunting regulations are made. This year we hope Alabama and Georgia will gather data on the all-day shooting which is being permitted for the first time in eight years, and that all hunting states may wish to know the effects of the longer season granted them this year. Since the only management practice at present seems to be by hunting regulations, it becomes increasingly important to measure the effects of changes in such regulations.

In addition to the need for continuing these four main phases of dove work, there are several problems which are receiving the attention of graduate students, state biologists, and other research workers. An important study of the developed crop, as an indicator of dependent nestlings, is being conducted under a special grant from the Wildlife Management Institute. Some work has been done to ascertain the breeding population and production of young per unit area of several types of ecological habitats, but many additional studies are needed to provide an understanding of various breeding densities. More work is needed on the progressive wing molt as an indicator of juvenile age classes. The relationship between ground and tree nesting doves in prairie and semi-prairie habitats may be highly desirable information. Other investigations can be suggested to institutions or state game departments which will fit into the extensive dove problem.

Perhaps the preceding will indicate the need for a continuation and even an expansion in Mourning Dove investigations. Administrators and technicians may hardly be aware of a slackening of interest in the dove. It seems startling to discover that not one state in the entire country now has a full-time dove biologist, and that the Service has only one man assigned to this important species. This seems to indicate the dove is considered of minor importance. Yet the best of available information shows the annual kill of Mourning Doves to equal, or exceed, the take of waterfowl in the United States. And that kill is in only 29 states, whereas ducks are hunted in all of the 48 states! And the Mourning Dove is being subjected to increasing gun pressure in most of the hunting states. This may be due partly to the dove season being the first to open in most states and also because doves can be hunted almost anywhere and without expensive or elaborate equipment or preparations.

These facts point to the need for increased funds for Mourning Dove research, management, and enforcement. States can include dove investigations under the P-R program but the Service must look to the Congress for appropriations, or possibly to hunting stamp sales. Suggestions have been made recently that doves should be included under the Migratory Bird Hunting Stamp or that a dove hunting stamp might be established.

We have been favored with a steadily rising dove population during the past four or five years. The losses from trichomoniasis in 1950 and from the severe freeze of 1951 have been overcome. But we dare not rest on our oars in the belief that we will always have doves. Rather, we should keep a close check on the breeding populations, the production, the movements, and the harvest, then set the hunting regulations accordingly. Thus we may insure the perpetuation of one of our most important game birds through intelligent management.