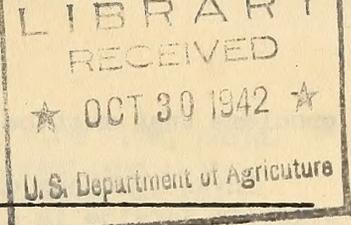


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THE STATUS OF MIGRATORY GAME BIRDS: 1941-42

Prepared in the Section of Distribution and Migration of Birds
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INTRODUCTION

A quotation inscribed on the tomb of the Unknown Soldier in the Arlington National Cemetery, "When we assumed the soldier we did not lay aside the citizen," suggests that one of the privileges for which the citizen-soldiers of America are now fighting is that of enjoying our wildlife. To safeguard the future of this great natural resource and at the same time to permit its full utilization is a task of the first magnitude, but experience has demonstrated that it can be done. In 1934-35, the period commonly known as "the bottom of the duck depression," it was estimated that the continental stock of game ducks and geese had shrunk to about 27,000,000. Through adherence over a period of 7 years to a program of restoration and regulation the more than trebling of this number has been accomplished and this without denying reasonable hunting to the sportsmen. Management of other migratory game species - the woodcock, snipe, rails, and doves - presents other

problems that must be accepted as a challenge to our managerial ability.

Investigations of the status of migratory game birds by the Fish and Wildlife Service is a continuing project. War conditions are having their inevitable impact on personnel and operational facilities, but the work goes ahead through the utilization of such resources as are available. In their search for the truth, biologists of the Service again covered the length and breadth of the continent, and their reports now constitute the largest and most accurate storehouse of information in existence on this subject. The summary of reports for 1940-41 was issued as Wildlife Leaflet 196 (July 1941). This year's statement, though considerably condensed for reasons of economy contains information that should be of interest to all who are concerned with the future of American sport afield.

PART 1: MIGRATORY WATERFOWL

Spring Migration

The inventory of January 1941 showed that the continental population of game ducks and geese, though estimated to be about 70,000,000, was the smallest increase recorded since the inauguration of the restoration program, and indicated that the harvest of 1940 came perilously close to the entire crop. Reports by 393 observers on the spring migration supported the conclusions based on the inventory - 114 reporting no change, 173 an increase, and 50 a decrease. While the situation thus reflected was satisfactory, a percentage comparison with similar data for the spring migration of 1940, showed a marked falling off in the increase category, with an almost equivalent rise in that for no change. In 1940, 50 percent reported no change, as against 51 percent in 1941, while 25 percent reported no change as against 34 percent for 1941. Nevertheless, the 1941 reports of decrease showed a 1 percent drop below those in this classification for 1940.

Breeding-ground Surveys

Pacific Flyway

Confident in the belief that the northern breeding grounds of Canada continued to be productive, the biologist of the Mississippi Flyway, Charles E. Gillham ^{1/}, again undertook waterfowl investigations in Alaska, leaving Nenana early in the season on the fishery boat Coot. Proceeding down the Yukon River to Mountain Village, he there established contact with a trader and made arrangements for transportation to Chevak on the lower Kashunuk River. This point was used as a headquarters for the season's work.

In the absence of previous work in this area, direct comparisons of waterfowl populations could not be made, but from constant questioning of natives and others, Gillham concluded that ducks had made a decided increase, although the conditions of geese were not so favorable. In summing up a voluminous report, Gillham refutes the common belief that because so much of

^{1/} Biologist Gillham is now attached to the Alaska Game Commission, with headquarters at Juneau, Alaska. He has been succeeded on the Mississippi Flyway by Robert H. Smith, whose headquarters are at the Upper Mississippi River Wildlife and Fish Refuge, Winona, Minn.

Alaska is north of the Arctic Circle it has a dearth of bird life, pointing out that the reverse of this idea is more nearly correct and that Alaska is probably the chief breeding ground for the waterfowl of the Pacific Flyway.

The assignment of Luther J. Goldman, biologist of this flyway, to important work in western Mexico precluded a study of the breeding grounds in British Columbia by a Service naturalist. Through the cooperation of the National Parks Bureau of Canada, however, a copy of the report of J. A. Munro, Chief Federal Migratory Bird Officer for that Province, was made available. Since Munro and Goldman have worked together in the past and have used similar methods, this report has well supplied the gap.

The winter of 1940-41 in that region was one of the mildest on record. A precipitation below normal, with no snow on the lower levels after the end of January, had the effect of drying up many shallow lakes and sloughs during the summer, but many deep lakes, while somewhat lowered, still maintained adequate water. Munro studied conditions in the Kamloops, Nicola, Okanagan, and Cariboo regions in British Columbia, and his report indicated that while there were no important changes in the status of nesting ducks and geese, the general population trends in that Province were upward.

Central and Mississippi Flyways

George B. Saunders, biologist of the Central Flyway, continued his studies of the white-winged dove in the lower Rio Grande Valley, in Texas, so Biologist Robert C. McClanahan ¹/_{of the Washington office}, was again assigned to the Prairie Provinces of Canada, where he covered the southern parts of Manitoba, Saskatchewan, and Alberta and visited the Athabaska Delta country. He reported that most areas in Manitoba had plenty of water, but that the situation in Saskatchewan was spotty, the levels in some lakes being higher than in 1940 and much lower in others. In Alberta conditions were generally better and waterfowl habitat suffered little damage. In the important Athabaska Delta country, however, water levels were most unsatisfactory. Food was abundant, but through recession of water the margins of many lakes and sloughs were lacking in adequate cover.

Throughout the summer marsh fires undoubtedly did considerable damage. There were a few outbreaks of botulism, and on Stobart Lake these were complicated by attacks of leeches. McClanahan reached the conclusion that in the Prairie Provinces most species of waterfowl have experienced little if any increase since 1940. The gadwall, baldpate, and Canada goose made the best showing, and though the redhead and canvasback had increased in some areas they had decreased in others. Such gains as were apparent in some sections were so offset by losses in others that McClanahan hesitated to predict either an increase or a decrease for the season.

Atlantic Flyway

The biologist of the Atlantic Flyway, Harold S. Peters, again covered important breeding grounds in Nova Scotia, New Brunswick, and Prince Edward Island. Previous work in this region permitted reasonable accurate comparisons.

¹/_{lst. Lt. McClanahan, F.A., is now on duty with the armed forces.}

At no time have there been any factors unfavorable to the habitat. Continued increases for the Canada goose, Atlantic brant, pintail, and ring-necked duck were evident, and the blue-winged teal was at least maintaining its status. According to Peters' personal observations, however, there was a small and unexplained decrease in the numbers of the black ducks. That this condition might be more seeming than real was largely verified by check observations later in the season.

Nesting Conditions in the United States

Ecological conditions for the nesting of waterfowl were most favorable throughout the great northern-plain breeding areas. Almost without exception all sections received either normal or excessive rainfall, and food and cover plants showed an excellent response. The refilling of many fine ponds, sloughs, and prairie pot-holes caused a greater dispersion of nesting birds than had been reported for any year in the last decade. It also reduced the concentrations from national wildlife refuge areas that had been recorded annually during drier years, particularly in the vicinity of the Upper Souris, Arrowwood, Des Lacs, Lacreek, and Waubay Refuges in North Dakota and South Dakota. Similar conditions existed in the region of the Great Basin, as at the Sheldon, Turnbull, Ruby Lake, Hart Mountain, Bear River, and Malheur Refuges. The production of birds from some of these refuges is indicated by the following estimates: Lower Souris, 175,000; Upper Souris, 65,000; Sand Lake, 100,000 to 150,000; Medicine Lake, 47,000; Long Lake, 6,000 (of 11 species) and Malheur, 75,000 ducks and 6,500 geese. It was estimated that more ducks nested in the vicinity of the Rice Lake Refuge, in Minn., than in the preceding 3 years combined.

Fall Migration

By the first of October 1941, the precipitation in most of the Mississippi Valley and in States farther west was more than 100 percent or normal, and in many areas it could be considered only as excessive. Heavy rains continued intermittently over most of this country during October and November, while temperatures in general remained much above normal. Eastern States enjoyed the mild temperature but in most of them it was accompanied by a deficiency in precipitation that bordered on drought. Except for a cold spell of short duration, moderate weather persisted to the end of the year.

By the middle of December there was only a light covering of snow on the northern Great Plains, but somewhat greater accumulations in the northern Rocky Mountain region and in the Appalachian system. Weekly weather reports of the last two weeks of December indicated the general conditions by such statements as "The weather of the week was remarkable for unseasonable warmth," and "...unseasonable warmth continued from the northern Great Plains and central Mississippi Valley eastward..."

The prevailing climatic conditions afforded waterfowl on their southward migration a great increase of feeding and resting habitat. Consequently, comparative figures from established stations were frequently misleading and were so recognized by the observers. For example, an actual decrease might be recorded at a given point of observation from the fact that the birds were spread out over much more territory than in 1940.

The best indicator of the general status of ducks was found in the condition of the divers, since because of the shallow flooding of prairie depressions these birds were not generally dispersed. The canvasback, redhead, ruddy, and ring-necked duck all showed gratifying percentages of increase, but little change was noted in the status of the scaups.

The populations of Canada and snow geese showed little change. A slight falling off was recorded for the over-abundant blue goose, probably indicative of an unsatisfactory breeding season. A gain was noted for the white-fronted goose and the Atlantic brant.

To obtain a better picture of the fall migration in the Atlantic Flyway, Peters was assigned to operations in Newfoundland and the Maritime Provinces from the first of September to the middle of November. In summing up his work he stated that the birds had a good season in New Brunswick, Nova Scotia, and Prince Edward Island, and raised large broods. The general consensus was that, with the exception of the black duck, which seemed to be somewhat less numerous in certain areas, waterfowl in general had made gratifying increases.

Despite improvements in the numerical strength of the migrating flocks, the shooting season in many areas was unsatisfactory to sportsmen. In the North Central States and on the Pacific coast fair to good shooting prevailed, but in the lower Mississippi Valley and on the Gulf and Atlantic coasts the take was insignificant. In most cases the poor shooting was in no way attributable to a scarcity of birds, but rather to prevailing climatic conditions.

Wintering-ground Surveys

Surveys of wintering grounds were again made by the biologists of all four flyways. In the eastern part of Mexico investigations were not so intensive as in the past, since Saunders was engaged on the critical problem of the white-winged dove, but in western Mexico and on the Mexican tableland Goldman covered important areas. The mild and open winter in the United States made the movement into Mexico unusually light. Goldman reported that some ducks and geese arrived early but they were not supported by the normal late fall and early winter flights. In the latitude of Mexico City and Guadalupe, it was obvious by early January that no large wintering population of ducks and geese could be expected. Conditions apparently were similar on the eastern coast.

In the lower Mississippi Valley and on the south Atlantic coast the concentration was exceptionally heavy, although absence of freezing weather in the coastal areas made it possible for large numbers of birds to remain well north of Chesapeake Bay.

January Inventory

War conditions prevented the use of some of the aviation facilities formerly available, but the annual January waterfowl inventory was conducted as usual, with splendid cooperation from the Navy, Coast Guard, State game departments, and others. Regional directors of the Service, the game management agents, district agents, refuge managers, regional biologists, and their

assistants deserve especial commendation for their work in overcoming many unforeseeable obstacles to insure the success of this inventory. The results were most gratifying.

When the waterfowl restoration program was inaugurated, naturalists and administrators of the Service agreed that the maintenance of a continental population of 100,000,000 to 150,000,000 ducks and geese would supply annual surpluses adequate for reasonable sporting purposes. That this minimum objective has not yet been reached is known from an analysis of the data resulting from the inventory of January 1942, which indicates a population strength only slightly in excess of 100,000,000.

The increase shown by the inventory of January 1942 is easily larger than any since these operations were begun in 1936, and may be attributed to the excellent breeding season over most of the summer range and to light bags of the hunting season. The gain was general for all species of ducks except the black duck, which showed a loss of about 6 percent from the 1941 figures, and as was anticipated from studies made during the fall migration, an excellent comeback was made by the redhead, canvasback, and other divers.

Geese, on the other hand, did not do so well, the snow goose and brant being the only species that showed a material increase over 1941. In the case of the white-fronted goose, the percentage of loss was not significant. The decrease for the important Canada goose was nearly 30 percent, clearly indicating that in some localities the take continued to be excessive for this bird. The breeding season apparently was unsatisfactory for the blue goose, as this species also showed a decrease. Since, however, the shooting season take is usually small, and since extensive areas of the national wildlife refuge system are found in their winter range, no alarm is felt regarding their status.

Continued application of good management principles should assure a constant surplus of shootable ducks and geese. Certain hunting methods that were partially responsible for the dangerous lows reached only 6 years ago should probably be outlawed forever, but there is no reason now apparent for questioning the future continuance of North American wildfowling.

PART 2: OTHER MIGRATORY GAME BIRDS

Woodcock

The numerical status of the woodcock showed some improvement during 1941 although over its entire range, the situation was decidedly spotty. Of 121 reports that covered the spring migration and were comparable with those of 1940, 70 indicated no change, 14 an increase, and 37 a further decrease. The reports of decrease rose from 22 percent in 1940 to 30 percent in 1941.

On the breeding grounds investigations showed an improvement in Pennsylvania and further losses in Maine. On a study area in eastern Maine that had 55 occupied singing grounds in 1939, there were only 40 in 1940 and 33 in 1941. Work by Mr. Peters in the Maritime Provinces indicated little change since 1940. Data obtained during the fall migration however, made it apparent that over much of the range the breeding season had been fairly satisfactory, particularly in Pennsylvania.

In Louisiana and Mississippi collaborator Russell T. Norris made detailed studies in the heart of the wintering grounds during December 1941 and January and February 1942 but found no material change from the conditions of 1940-41. In summing up the studies of the year Norris states that in Louisiana the woodcock has been seriously reduced during the last 10 years, and some qualified observers insist that the decrease has been at least 25 percent. The woodcock was once a common winter resident in nearly every Louisiana parish except along the gulf coast, but its numbers have continually dwindled, until at present it is common in only a few parishes, and in most of these only in widely scattered areas. An unusual concentration in the general vicinity of Houston, Tex., was reported in January 1942.

Woodcock observations during the spring migration of 1942 showed a rather surprising but gratifying improvement. This was later confirmed from parts of the breeding grounds, but it continues to be apparent that only by good management will the numerical strength of this important game bird be again satisfactory.

Wilson's Snipe

Reasons for the decline of the Wilson's snipe are somewhat obscure, but it is the studied judgment of the Service that if this species is to be retained on the list of American migratory game birds it will be necessary, as with the woodcock, to conduct exhaustive investigations to provide a basis for sound management. Such research must be done on all parts of the ranges if the various factors inimical to the best interest of the bird are to be discovered. This has been listed as a "must job" when funds and personnel become available.

During the fall migration of 1941 about 240 reports were received on the status of this snipe. Whereas, in 1940, the percentage of decrease was only 26, in 1941 it rose to 34, despite the fact that in that season the bird was accorded complete protection. Analysis of about 215 reports covering the 1942 spring migration affords little reason for more optimism, the percentage reporting a decrease being 26 as compared with 21 for the previous spring migration.

Rails and Coots

In Virginia, the only State particularly concerned with the shooting of the sora, there appeared to be a satisfactory increase in this species during the fall migration. It could not be determined, however, whether this represented an actual increase or merely a concentration brought about by unfavorable conditions elsewhere.

There is some evidence of a slight decrease in the abundance of the coot which, if substantiated will indicate a desirable condition, since in recent years this species has been over-abundant both for its own welfare or for that of associated species.

Mourning Dove

The mourning dove situation has continued to be a matter of grave concern particularly as it affects the eastern subspecies. During the

period September 1941 to January 1942 all agents and refuge managers of the southeastern region submitted monthly reports on the status of the bird as observed by them. In the Mississippi Valley (Kentucky and Arizona) there appeared to be an improvement in September but by October and November it was evident that this condition was entirely local and probably resulted from a more favorable breeding season in these sections. Migrant birds were few, and even in Illinois the game management agent reported that compared with last year dove population appeared to have decreased at least 25 to 30 percent.

In States along the south Atlantic and Gulf coasts, the situation was continuously bad. Reports of 20 and 25 percent decreased from 1940 were frequent. Commenting on the situation in Virginia during September one agent reported a real shortage of doves in this section - based on his mileage travel on second-class country roads in many different counties in the lower parts of this State and added that at times, several miles could be traveled without seeing a single bird. An agent in Maryland reported that the decrease in 1941 was alarming and that it would be no exaggeration to state that there were 50 percent less doves in Maryland than in previous years. This condition was continuous to the southward. Clarence Cottam, of the Washington office, who traveled in October over large sections of South Carolina and Georgia and made a point of watching for doves, reported that he had never before seen so few birds in the South.

In the West the situation was not so acute, although material reductions in populations were recorded in Oklahoma, Texas, Arizona, and California. From Texas also came many complaints that the shooting season opened too early, September shooting being deplored by correspondents and press comments. On the other hand, Montana reported a satisfactory increase. In an analysis of the nation-wide reports on the 1941 fall migration compared with that for 1940, the increase category fell from 37 to 31 percent, and the decrease rose from 16 to 27 percent.

The results of the survey made it apparent that the regulatory action taken in 1941 was not adequate, and a conference was held by officers of the Fish and Wildlife Service and the Southeastern Association of Game, Fish, and Conservation Commissioners, at Montgomery, Ala., in April, when all phases of the problem of proper mourning dove management were discussed. Since these birds do not colonize or even nest in one particular type of habitat, the possibility of aiding in their rehabilitation by the establishment of refuges is less feasible than in the case of migratory waterfowl. Reduction of the legal kill by sportsmen appears to be the only remedy. With this in mind, consideration was given to complete closure, but the conference finally decided to recommend reducing the bag and shortening the season.

That the dove had a fairly good breeding season in many sections is gratifying, and there is reason to believe that restoration may be effected more rapidly than was at first anticipated, but this can come only by a rigid control of hunting.

White-winged Dove

The research project on the eastern and western white-winged doves has been continued, with arrangements to conclude field operations following the shooting season of 1942 and then to formulate a definite plan of management.

Flyway Biologist Saunders made almost continuous studies during the breeding season in the lower Rio Grande Valley, in Tex., as well as in eastern Mexico, and

in order to round out knowledge of the winter range, he visited Guatemala and El Salvador. Biologist Johnson A. Neff resumed his investigations of the western race in Arizona and, with the cooperation of the State game department, carried the work into the Mexican State of Sonora during the spring of 1942.

It is doubtful whether there is general understanding of the heavy toll of these birds that is sometimes taken in a very limited area. Figures obtained in Texas by Federal and State agents indicated that in 1941 more than 100,000 were killed. In the annual report of the Texas Game, Fish, and Oyster Commission for the fiscal year 1940-41, the statement is made that: "The white-winged dove in Texas decreased from an estimated population of 2,000,000 in 1920 to an estimated 500,000 in 1939. A general survey of the species in 1940 revealed that hunting was excessive (estimated kill of 60 percent of population), that agricultural crops were fast replacing brush lands utilized as nesting habitat (500,000 acres cleared since 1920), and that grackles and jays were taking an enormous toll of eggs and young (varied from 60 percent to 90 percent on six study units)."

Band-tailed Pigeon

The band-tailed pigeon is of interest as a game bird only in the Pacific Coast States, Arizona, and New Mexico. Its status appears to vary in different sections in successive years, but there seems no particular reason for undue concern, as only from British Columbia has there been any report of material decrease, and against this may be placed reports of increase in other Pacific coast areas, notably California. It also appears that the species is holding its own and even increasing to some extent in the Rocky Mountain region. At times this bird is destructive to grain, apricots, prunes, olives, cherries, and other small fruits, but at others even during migration--it inhabits inaccessible sections where it is relatively safe from sportsmen.

In order to reach the knowledge of the subject, the student must first be familiar with the basic principles of the subject. This is the first step in the process of learning. The student must be able to identify the key concepts and understand how they relate to each other. This is the second step in the process of learning. The student must be able to apply these concepts to new situations. This is the third step in the process of learning. The student must be able to evaluate the results of their learning. This is the fourth step in the process of learning. The student must be able to communicate their knowledge to others. This is the fifth step in the process of learning.

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