

## CONSERVATION SECTION

### CONSERVATION COMMITTEE REPORT ON STATUS OF SANDHILL CRANES

Sandhill Cranes (*Grus canadensis*) historically occurred in many areas of North America and eastern Siberia. In North America they occurred from the arctic tundra and boreal forest on the north to the coastal marshes and river basins of the southeast, south, southwest and far west. Six subspecies of Sandhill Cranes have been described and recognized by some authorities. These are: the Lesser (*G. c. canadensis*) nesting in tundra and boreal areas of Siberia and northern North America, the Canadian (*G. c. rowani*) which nests in central Canada, the Greater (*G. c. tabida*) nesting in the Lake States and northwestern North America, the Mississippi (*G. c. pulla*) in Mississippi, the Florida (*G. c. pratensis*) in Florida and Georgia, and the Cuban (*G. c. nesiotis*) in Cuba. Reliable data on status of populations prior to the advent of settlement are lacking but cranes were undoubtedly more numerous at that time. With the advent of white settlement cranes were hunted for food and many favored habitats were drained for agriculture with resultant adverse effects on crane numbers.

Due to vastness of occupied breeding habitats, wariness of cranes and low levels of sportsmen interest, few detailed regional studies of cranes were made until the mid-1960's. Presently, interest and research on Sandhill Cranes has intensified with studies being accomplished on the Greater, Mississippi and Florida subspecies. Unfortunately, little effort has been expended on the two subspecies, Lesser and Canadian, which are subjected to hunting. Because of the lack of data on these two races and concern about the endangered Whooping Crane (*Grus americana*) which migrates through areas open to Sandhill Crane hunting, some authorities have written about the possible threat of hunting to Sandhill and Whooping Crane populations. It is important to recognize that Sandhill Cranes have inherently low productivity as average clutches contain two eggs and adults apparently do not reach maturity until three years or older. Annual recruitment is not accurately known although studies of hunted and non-hunted migratory populations indicate that from 4 to 37% of cranes in fall flocks and in game bag checks are young of the year. Thus, concern has been expressed about hunting of cranes because of their low productivity and the overall lack of data on population trends and harvest rates. These concerns are justified. Because of the expressed concerns about the future of Sandhill Cranes, the Conservation Committee of The Wilson Ornithological Society initiated this review to better understand the problems associated with crane management. The basic problems encountered are:

- (1) No specific management plan has been prepared for Sandhill Cranes by state and federal agencies.
- (2) Reliable estimates of breeding populations, productivity and recruitment to fall populations are not presently available for the hunted Lesser and Canadian subspecies.
- (3) Adequate estimates of hunter harvest and crippling loss are largely unavailable for most areas.
- (4) Breeding and wintering habitat available to cranes will undoubtedly continue to decrease in quality and quantity.

#### HISTORY OF SANDHILL CRANE HUNTING

A general hunting closure on all cranes was invoked in the U.S. in 1916 and remained in effect until January 1961 when a 30-day season was opened on the Lesser (Little

Brown) Sandhill Crane in eastern New Mexico. The first open season was prompted by requests from the Central Flyway Waterfowl Council because the Lesser subspecies (including Lesser and Canadian) were believed to be sufficiently abundant, and they were causing considerable localized depredations to unharvested grain crops, mainly during fall migration on the northern plains of the U.S. and in the prairie provinces of Canada. Due to severe losses of grain crops in Saskatchewan, officials authorized the shooting of Sandhill Cranes under general crop depredation orders in 1959. A second hunting season in the U.S. was permitted during the fall of 1961 and was expanded to include west Texas and Alaska.

Between 1967-1972, six additional states, all in the Central Flyway, were permitted to open specified areas to hunting. Sandhill Cranes have been hunted in Mexico for years. In Canada, seasons have been allowed in Saskatchewan and Manitoba since 1964.

Studies conducted by the Bureau of Sport Fisheries and Wildlife and New Mexico Department of Game and Fish prior to the initial 1961 open season indicated that neither the scarce Greater Sandhill Crane nor the endangered Whooping Crane would be influenced by a hunting season in eastern New Mexico or west Texas. Hunting seasons in other Central Flyway States were deferred until completion of a 4-year study which obtained considerable information about cranes, including localities frequented by the Greater subspecies and the relationship between the fall migration chronology of Sandhill and Whooping Cranes.

These studies showed that the fall migration of Whooping Cranes is rather predictable. Whooping Crane sightings were reported at Sandhill Crane fall concentration sites in Saskatchewan, northeastern Montana, North and South Dakota, Kansas and northern Oklahoma. In contrast, Whoopers were not observed at Sandhill Crane concentration areas in northcentral Montana, southeastern Wyoming, eastern Colorado, or western Oklahoma. Likewise, the two species were not observed together after November 8 anywhere in the Central Flyway north of Texas.

Present crane hunting season dates in the Dakotas and Oklahoma take into consideration the migration chronology of Whoopers. Where Whoopers are likely to occur in company with Sandhills, opening dates are delayed until after early November. In addition, measures are available to close the season in any locality where Whoopers appear during a Sandhill Crane season.

These same studies have also shown that hunting has little or no impact on populations of the Greater Sandhill Crane since none or very few occur in areas with open seasons. While a small portion of the cranes present during early fall in Kidder and Pierce counties, North Dakota, are the Greater subspecies, it is doubtful if hunting threatens the Greater subspecies in North Dakota as the season opens in November after most cranes of all subspecies have departed and only a few birds are generally harvested (estimated harvests ranged from none in 1971 to 400 in 1970). Further, recent studies throughout the U.S. show that the Greater subspecies is more numerous than previously believed and that most populations are presently increasing.

Available data indicate that present crane hunting seasons in the U.S. do not threaten the less common Greater subspecies and seasons are manipulated to reduce the possibility of jeopardizing Whooping Cranes. However, the mistaken shooting of even one Whooper cannot be overlooked. To date, such a mistake is not known to have occurred in any areas open to the hunting of Sandhill Cranes.

Since present seasons do not appear to threaten either the Greater subspecies or the Whooper, the question may be asked what impact has hunting had upon crane populations subject to harvest? Justifications for open seasons were based primarily upon a

population of some 200,000 Lesser and Canadian Sandhills which managers believed could sustain a limited harvest and at the same time hunting could reduce local crop depredations through dispersal of birds from areas receiving damage. These justifications appear to be reasonable.

Requests for open seasons prompted the initiation of several studies by management agencies including an evaluation of the first hunt in New Mexico, limited banding projects in New Mexico and Nebraska and a survey of Central Flyway crane populations. Except for the evaluation of the first New Mexico hunt, however, only scanty information has been obtained on the impact of hunting on Sandhill Cranes. Available data collected since 1961 are insufficient and population responses to hunting and reduction in crop depredations cannot be adequately evaluated.

Data are lacking to accurately assess hunting pressure and harvest in North America. Presently, four states (Alaska, Colorado, New Mexico, North Dakota) and Canada obtain estimates of crane harvests by questionnaire while other states make estimates of harvest or have no information. Even where harvest questionnaires are employed, they are not specifically designed to sample crane hunting. Instead, estimates are obtained from general harvest questionnaires for waterfowl or all game birds. Thus, sample sizes are inadequate and do not provide accurate estimates of hunter participation and kill for lightly hunted species like cranes. The total annual harvest for North America, including adjustments for crippling loss, harvest in Mexico, Siberia and by natives in Canada and Alaska may approach 15,000 cranes. This figure, however, is mainly conjecture and provides only a crude estimate.

#### PRESENT STATUS OF SANDHILL CRANES

*Lesser Sandhill Crane.*—This subspecies nests in arctic and subarctic regions from Siberia to the west shore of Hudson Bay and winters in Texas, New Mexico, southeastern Arizona, and Mexico. Most population surveys have been taken during spring along the Platte River in central Nebraska. An estimated peak population of 200,000 Lesser and Canadian Sandhill Cranes are present in that area during most springs in recent years. Since several thousand Lessers have probably moved further north or have not arrived on the Platte River, counts are minimal. An additional 20,000 Lessers migrate through the Pacific states and winter in the California Central Valley and Carissa Plains. At the minimum, there are an estimated 250,000 to 280,000 Lesser Sandhill Cranes. This population appears to be relatively stable.

*Canadian Sandhill Crane.*—This race nests from Ontario to west-central British Columbia and is presumed to winter in coastal Texas and Mexico. No reliable estimates are available as to the size of this population but best guesses are that they number from 15,000 to 20,000. Little knowledge exists about this subspecies and it is not known whether they are increasing or decreasing.

*Greater Sandhill Crane.*—Four populations of this race are presently recognized. These are: (1) *Eastern*—This group nests from Michigan, Minnesota, Wisconsin, southeastern Manitoba to southwestern Ontario and winters in southern Georgia and Florida. The population is estimated at 7,000 birds and they are presently increasing. (2) *Rocky Mountain*—The nesting area is in eastern Idaho, western Wyoming, northeastern Utah, southwestern Montana, and northwestern Colorado, and they winter in western New Mexico, northern Mexico, and southeastern Arizona. At present the population is increasing with an estimated 10,000 to 15,000 individuals. (3) *Colorado River Valley*—The Colorado River Valley population nests in northeastern Nevada and probably southcentral Idaho, and winters primarily south of Parker, Arizona, and near

Brawley, California. Their estimated number is 1,000 and present status is unknown. (4) *Central Valley*—This population nests in southcentral and southeastern Oregon and northeastern California with an additional segment of about 300 birds nesting in southern British Columbia. They winter in the California Central Valley from Chico to Delano. Presently this population appears stable, with an estimated 3,500 birds.

*Mississippi Sandhill Crane*.—This subspecies occurs only in Jackson Co., Mississippi and there are an estimated 38 to 40 birds in the population. At present they are stable to decreasing. With increased human encroachment and highway development, the subspecies is in danger of becoming extinct in the very near future unless a refuge is established.

*Florida Sandhill Crane*.—Presently there are an estimated 5,200 Florida Sandhill Cranes ranging from the Florida Everglades to Okefenokee Swamp, Georgia. Currently the subspecies is increasing as new habitat becomes available from clearing, fencing, and grazing. However, with increased real estate and U.S. Corps of Engineers developments the population will probably decrease as additional habitat is destroyed.

*Cuban Sandhill Crane*.—This subspecies is endemic to western Cuba and the Isle of Pines. The present status of the population is unknown. Estimates in the early 1950's put this population at 100 birds. Recent evidence indicates that the population is holding its own.

Current estimates indicate there are from 285,000 to 320,000 Sandhill Cranes if all races are considered. At least 265,000 of these are in the two races (Lesser and Canadian) which are hunted. For specific detailed data from which this report was prepared, contact Dr. C. E. Braun, Wildlife Research Center, P.O. Box 2287, Ft. Collins, CO 80521.

#### SUMMARY

Sandhill Cranes occur throughout much of North America, with one subspecies extending into Siberia and another isolated in Cuba. Six subspecies are described, with the three migratory races (Lesser, Greater and Canadian) being the largest numerically. The three non-migratory races (Florida, Cuban and Mississippi) are local in distribution with only the Florida subspecies consisting of more than a few hundred individuals. Presently 285,000 to 320,000 Sandhill Cranes exist, with most (265,000) being in two races, Lesser and Canadian. These two races are the only ones hunted legally in the U.S., Canada and Russia. In Mexico, all Sandhill Cranes may be hunted. Hunting of cranes for sport was initiated in 1961 and it is estimated that the total annual harvest including crippling loss could approach 15,000 birds. Recently, concern has been expressed about the potential for overharvest of Sandhill Crane populations presently being hunted and with the fate of the endangered Whooping Cranes that migrate through areas open to hunting. No documentation exists that Whooping Cranes have been mistaken for Sandhill Cranes in areas open to hunting of the latter species. Major problems associated with Sandhill Cranes relate to lack of overall management goals, lack of reliable population, recruitment and harvest data for the two hunted races, and continued deterioration of breeding and wintering habitats due to man's activities. The best data available indicate that two subspecies are increasing (Greater and Florida), three are stable (Lesser, Canadian and Cuban) while one population (Mississippi) is in danger of extinction.

#### RECOMMENDATIONS

1. Spring population surveys of the hunted Lesser and Canadian subspecies should be intensified and improved not only along the North Platte River in Nebraska

- but both north and south of this staging area. Surveys in all areas should be conducted simultaneously in order to avoid duplications and to arrive at a more reliable population estimate.
2. Estimates of annual recruitment in hunted Sandhill Crane populations through systematic counts of adults and immatures by trained and interested personnel should be conducted annually during fall and early winter (October–December) in all major fall concentration and wintering areas.
  3. Efforts should be made to obtain better estimates of harvest, crippling loss, and hunter participation in all states, provinces and countries having hunting seasons. This should be accomplished through requiring all hunters to have a special permit for crane hunting.
  4. Efforts should be initiated to band representative samples of cranes in wintering and/or staging areas in order to assess hunting pressure, mortality rates and geographical distribution of the harvest.
  5. No expansion of crane hunting should be allowed until sufficient biological data are available to support such a decision. Indeed, if improved census and harvest data become available, it may be necessary to restrict crane hunting in some areas or on some populations or subpopulations.
  6. Federal and state agencies concerned with management of cranes should prepare a long term plan for the perpetuation and enhancement of the species.
  7. In areas where crop depredations are severe, efforts to disperse cranes through methods other than hunting should be increased and monetary reimbursement to landowners with damage by cranes should be considered.
  8. Federal and state agencies should be encouraged to continue identifying and protecting crane nesting areas.
  9. Every effort should be made to monitor the fall migration of Whooping Cranes. If they are jeopardized by the hunting of Sandhill Cranes, such localities where conflict exists should be closed to all crane hunting.
  10. Establishment of a refuge for migrating Sandhill Cranes in the Great Bend area of the Platte River, Nebraska as proposed by the U.S. Fish and Wildlife Service is an important step in crane management. The Wilson Ornithological Society supports the establishment of such a refuge as early as feasible.

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Editor's Note: Definite plans have now been made for the establishment of a National Wildlife Refuge in Jackson Co., Mississippi for the protection of the Mississippi Sandhill Crane. Plans are also continuing to construct U.S. Interstate Highway 10 through the crane breeding area.