

April 18, 1996

Memorandum

To: Refuge Manager, Wheeler National Wildlife Refuge

From: Migratory Bird Field Coordinator, Memphis, TN

Subject: Habitat and Population Management Recommendations for Your Consideration

On December 13 and 14, 1995 Manager Stone, Assistant Manager Lanier and I visited most sections of Wheeler Refuge and discussed various habitat and population management activities that are primarily associated with Canada geese. There is great concern that the Southern James Bay Population (SJBP) of Canada geese at Wheeler Refuge has been declining for several years. A decline in the SJBP breeding population on Akiminski Island in The Northwest Territories has also been observed since 1990. It is appropriate, therefore, that our efforts be focused on insuring that the wintering habitat at Wheeler provides the necessary resources and attractiveness to Canada geese as is possible. With this in mind, the following recommendations for management activities at Wheeler are offered for your consideration.

Cropland Management

1. The amount of grain grown and made available should be calculated from expected waterfowl use days on the refuge. Since geese are more reluctant to feed near tall vegetation that might harbor predators, I would tend to not count food resources that are within 100 feet of dense vegetation as being available to geese. Food resources in these areas are also used extensively by other wildlife such as deer, squirrel, turkey and other woodland wildlife species. Enough grain should be grown and made available that there is still some remaining in the field after waterfowl have departed the refuge. Another consideration is to store grain and have it available for initiating a feeding program if all of the field grain is used in some years.

2. Corn harvest should be accomplished in blocks and not strips. Geese prefer to feed in large block-harvested corn fields where the stubble is below 18 inches. Recent field studies in Illinois show that large blocks of harvested or downed corn are preferred feeding habitat as opposed to stripped corn or standing corn.

3. If the refuge periodically knocks corn down to make it more available, there should be no less than 3 weeks supply of food available at all times. This will help to insure that geese don't deplete the available food supply in case weather conditions prohibit knocking down more corn, the government is on furlough or other reasons. Mowing the corn makes the field cleaner and more attractive to feeding geese. Another option is to knock all corn down prior to the hunting season allowing geese to feed when and where they choose instead of when and where we choose

4. Cooperative farmers should harvest their crops from those fields that can be flooded as soon as possible with an ideal date of no later than November 1. This will increase the probability of being able to flood food resources in those fields when winter rains begin in late October and November.

5. In the White Springs Unit returning the alligator weed infested fields to the farming program should make the weed problem more manageable while providing some food resources. Consideration could be given to farming some fields 1 in 3 years, others 2 in 3 years and some 3 of 3 years to compare alligator weed control, the production of food resources and the amount of waterfowl use occurring in each situation. My **limited** observations of the fields in this unit indicate that they have not been outstanding producers of moist soil plant food resources.

Additional Developments

1. I suggest that the water control structure in Dinsmore Slough be replaced and this area be brought under more intensive management. The slough could be drained in the spring (before lake levels are elevated) and the water kept out of the slough until moist soil plants are 12 inches or higher. At this time some water can be allowed to slowly re-enter the unit serving to irrigate the moist soil plants and increase their growth. This management scheme might also serve to retard growth of the lotus which has been a problem in this unit. Another option would be to manage for aquatic plants as the adjacent Crabtree Slough is managed. I would suggest that initial management efforts be focused on moist soil plants.

2. The 100-acre Blackwell Swamp appears to be suitable for managing as a moist soil unit for ducks if the water control structure is replaced. Since the swamp is utilized by fisherman, a slow 2-foot drawdown would expose some of the bottom for moist soil plant production but also retain some water for the fishery. Water from springs and runoff can be utilized to slowly refill the pool making additional waterfowl food resources available in the early fall when they are normally very limited. Presently, Blackwell Swamp it is a permanent body of water with essentially no fluctuations in the water level. The benefits of a partial drawdown should be an improved fishery, increased moist soil food resources for waterfowl, germination of cypress and tupelo seedlings and reducing the stress on existing timber caused by permanent flooding.

Disturbance

1. The entire area around and through Wheeler Refuge has become extremely congested with houses, traffic, people, pets and all the other disturbance factors that occur in a rapidly growing community. No doubt that the disturbance on the refuge has increased simply because so many more people live in and around and use the refuge. Canada geese need large bodies of water where they are not disturbed to sit-out extreme cold spells as well as for loafing and roosting. They also need feeding areas where they are not disturbed. In an attempt to compensate for some of the increased disturbance and hopefully improve the attractiveness of goose habitat, I suggest that the amount of inviolate sanctuary where no activities are permitted between November 15 and February 15 be significantly increased, particularly in those areas historically used by geese. Closing the following areas to all types of public use between November 15 and February 15 should significantly reduce disturbance:

A. Garth Slough (presently closed November 15 - January 15)

B. The Limestone Bay area which would include all refuge lands and waters on the north side of the Tennessee River between I 65, Alt. U. S 72 and the Greenbrier/Rockhouse Road.

C. Flint Island

2. As I understand the refuge regulations, deer archery hunting is allowed on the entire refuge (except the Garth Slough area) from October through January and flintlock deer hunting is allowed the last two weeks of January. If these two seasons could be restricted to the period before November 15, disturbance should be reduced. I think most refuges that winter Canada geese close the refuge to all activities during the waterfowl wintering period (essentially November through February).

Habitat Management

Canada geese prefer very large fields and other large open areas where they feel secure from ground predators. When geese first occupied the Wheeler the habitat was very open but it has slowly revegetated in areas that were not intensively farmed or kept open by other means. Revegetation often occurs slowly enough that a change may not be noticed until pictures are observed of how open the habitat was when it first became a refuge. I believe that the refuge's first habitat management priority should be for Canada geese, therefore, maintaining large open areas and opening up other large areas where geese have traditionally used is an appropriate activity. The following suggestions are made for your consideration:

1. The recent bank-clearing on Flint Island should improve the goose use of the habitat and additional clearing would be appropriate. Burning the bank vegetation in the early winter should create an open area between the water and fields and encourage growth of browse plants. Additionally, I've always thought that the large pine plantation on the island should be clear-cut and managed as open habitat.

2. Removing the vegetation between Limestone Bay and the adjacent agricultural fields should make the fields more accessible to geese and make more of the food resources available to geese. Removing vegetation on the mud flats in Limestone Bay should improve the resting and roosting habitat.

3. Since waterfowl use of Susie Hole appears to have been decreasing in recent years, some additional clearing of border vegetation on the west end and the north and south sides might make this area more attractive.

4. The birds that are attracted to the Display Pool to feed on the grain placed on the shoreline certainly gets the attention of visitors and is lauded by many. On one evening I observed 6,000 - 8,000 ducks and a few geese and I understand that much larger populations also occur in the pool. There is, however, a risk associated with maintaining a waterfowl feeding station that could lead to adverse consequences. As the population of game-farm and other resident (year-round) ducks and geese grows in the Wheeler area, an increase in the likelihood of transmitting diseases to wild waterfowl occurs. The transmission of diseases among wild waterfowl then greatly increases when they come together each day on a small pool. I suspect that it is mostly the same birds that return to the pool each day. Another concern is that this activity suggest to the visiting public that attracting waterfowl to an area by placing feed for them is an acceptable management practice, otherwise the Service would not be doing it. My recommendation is that feeding be terminated and the pool be managed as a moist soil unit or in some other manner that is more normal or more acceptable. See the 3 attachments for more information on waterfowl diseases.

Surveys

During your waterfowl surveys it is important to document the locations of all the birds observed by field, impoundment, moist soil unit, etc. The amount of bird use that occurs in different locations is about the only way to assess the response to annual management activities in particular locations. It also provides as opportunity to document long-term shifts in bird use from one refuge location to another that might be associated with reduced or increased disturbance. You may already be doing this.

As you recall we briefly discussed most of these topics during our most recent trip over the refuge. I think we should take whatever actions that are considered most

appropriate to maintain the Wheeler habitat in a condition that meets all the needs and is attractive to Canada geese. Please give me a call if you have any questions or want to discuss any of the recommendations.

Attachments