

Part VI

CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE ACTION

Arctic Goose Habitat Working Group

CONCLUSIONS

The Arctic Goose Habitat Working Group concludes:

1. Over-abundance of several populations of Arctic-nesting geese in North America is causing major damage to Arctic habitats used by geese and other wildlife. In some cases this goes beyond a simple "habitat problem" and more on the scale of an "ecosystem in peril".
2. A "trophic cascade" of events, resulting from over-grazing and grubbing by some Arctic geese, creates soil salinity and moisture conditions that lead to desertification of the affected Arctic landscapes. These habitats will not likely regain their original plant communities for many decades into the next millennium. The most degraded of these habitats will likely never recover.
3. This habitat damage is increasing in extent and will not be corrected or reversed by any known natural phenomena. We cannot forecast how long it will be before most of the finite supply of habitat that is available for nesting by tundra- and coastal-breeding birds will be permanently degraded or destroyed. However, the destruction is progressing at a rapid rate with several major breeding colonies of mid-continent lesser snow geese showing extensive signs of permanent habitat degradation.
4. Habitats used by mid-continent white geese are in particular jeopardy. The degradation is such that recruitment rates at several large nesting colonies have declined. In the short term, however, such declines will not likely bring those colonies or the entire mid-continent population under control through density dependent regulation. As nesting and especially brood rearing habitat declines, families simply disperse to adjacent areas that are not yet degraded. Recruitment for those families increases and the geographically larger colony grows in number and continues to spread further. It is not known for how long or over what geographic range this expanding cycle of local growth, degradation and dispersal can or will continue.
5. There appears to be only two ultimate outcomes if management agencies chose a "do-nothing" approach to dealing with these problems: for one, the population will decline dramatically (crash) after recruitment rates fall to the level where they could not maintain numbers in the face of mortality from all hunting and non-hunting causes, especially those related to senescence of surviving adults. If this were to occur, we believe the decline would happen during the early part of the next century and the recovery of populations would be protracted beyond the next century because the habitat to support the rebuilding of populations would be extremely limited.

Alternatively, the population could remain at relatively high levels, likely continuing to grow for several years, with geese in ever-worsening physiological condition followed by the ultimate destruction of a major component of the Arctic ecosystem that is important, not only to white geese,

but also to other geese and a wide variety of migrant and resident vertebrates. Problems with white geese and agriculture in southern areas would continue to grow. Besides the ecosystem consequences, some specialists believe this would lead to high populations of poorly-conditioned birds living, effectively, in "slum" conditions, and this is why the problem will not be self-correcting.

6. Natural resource managers, charged with the long-term welfare of these populations and their habitats, have the responsibility of implementing management programs to prevent the future ecological disaster that we believe is inevitable. A time-frame for the occurrence of widespread ecosystem breakdown isn't readily apparent, since there has been no directly related "real world" experience for managers and scientists by which to make such projections. However, we know the process has already started, we know it is expanding and we think that damage to the most severely degraded habitat is essentially permanent.
7. The most effective population reduction efforts will focus on reducing adult survival as this is the prime factor sustaining growth of these populations.
8. No single technique will solve these problems. Multifaceted and multiagency approaches are required. Most of these will require actions beyond normal waterfowl harvest management frameworks.

RECOMMENDATIONS

The Arctic Goose Habitat Working Group recommends that:

1. The U.S. Fish & Wildlife Service and the Canadian Wildlife Service should assign full time staff coordinators to developing and advancing effective strategies to reduce mid-continent white geese to the desired population levels. This should be established and promoted under an international program named something like the Arctic Goose Management Initiative of the Arctic Goose Joint Venture. The Working Group should be retained in an expert advisory capacity, but believes strongly that full-time staff attention to this problem is needed.
2. A comprehensive communications strategy should be developed and implemented by the CWS and USFWS to inform the general public, sportsmen, private conservation groups, animal welfare organizations, government officials and native American and Canadian aboriginal peoples of the problem caused by over-abundance of certain Arctic and sub-Arctic goose populations. This should be initially focused on mid-continent white geese as they are causing the most severe Arctic ecosystem damage. A fully informed public is critical to the successful implementation of any future management actions.
3. The responsible public agencies in Canada and the U.S. should implement proactive population reduction measures to reduce mid-continent white goose populations to a level of about 50% of current numbers by the year 2005. This requires that the population growth rate be reduced to an annual level of between 0.85 and 0.95 (5% - 15% reduction in total numbers per year) from the current growth rate of about 1.05 (5% growth per year). Because the main driving force in population growth rate is adult survival and because most of the specific population reduction recommendations relate to increasing the kill by hunters, the harvest rate should be increased to about 3 times the current level.
4. All the management strategies included in Part IV of this report should be considered as viable alternatives for increasing harvest of mid-continent white geese. These have been reviewed and

scrutinized by a broad range of professional waterfowl managers from the U.S. and Canada and represent actions that respect the integrity of the birds as important resources for the public at large, as game birds for hunters and as food for all these groups.

5. We applaud the fact that two of the Working Group's recommendations have already been implemented in the Central and Mississippi Flyways for 1996, namely: 1) extending snow goose hunting frameworks to March 10th, and; 2) increasing possession limits to 3 and 4 times the daily bag. We also applaud the Arviat Hunters and Trappers initiative to explore the feasibility of increasing harvest of adults near the McConnell River. The following additional steps should be implemented by the fall of 1997: 1) legalize the use of electronic calling devices for snow goose hunting; 2) legalize baiting for snow geese in special snow goose population reduction seasons, and; 3) provide additional hunting on and around state, provincial and federal refuges by opening additional areas to hunting and reducing food resources to disperse birds to surrounding farm land.
6. Increased harvest by northern residents will also reduce adult survival and thus the growth rate of mid-continent white geese. Discussions should proceed with native Canadians to further develop their participation in this international waterfowl conservation/ecosystem management initiative. For example, we believe native Canadians should be encouraged to increase their harvest of adult white geese to whatever can be effectively used to subsidize their annual nutritional requirements. Restrictions on egging of snow goose eggs should be removed. The Natives should be encouraged to shift hunting pressure that they currently apply to other goose populations, especially those in poor population status such as the Southern James Bay Canada geese, to white geese. Consultation with the aboriginal peoples should be pursued to search for other methods that they may be able to employ in this cause.
7. Through Treaty amendment or through special waterfowl management provisions under the current Treaty, extend the hunting period for midcontinent white geese beyond both the current 107 day limit and the March 10th closing date. We urge that this be done within one year of the delivery of this report. This will directly raise additive mortality on breeding-age birds. White geese are in the best condition of the whole annual cycle at this time of year, and therefore are also at their best, in terms of food quality for humans.
8. We emphasize that the evaluation strategy outlined in Part V of this report should be further developed and implemented as part of an overall white goose population management initiative. This should be phased in over the next few years as technical considerations are resolved and as funds become available. The Working Group does not believe that management actions to reduce populations should be held back until all technical and financial considerations for an evaluation effort are resolved. There is virtually no risk that implementation of the management tools described in this report will have an overwhelming or irreversible impacts on population size in the near term. There is considerable urgency to reduce population growth rates of white geese and to begin to learn about the many other factors impacted by new regulations, such as public acceptance and enforceability. Further, there will undoubtedly be a time lag during which hunters will equip themselves, learn new hunting methods and become more comfortable with the major changes such as late winter and spring hunting. Implementation of the Arctic Goose Management Initiative should provide excellent opportunities for integration of monitoring and management activities in an effective adaptive management application wherein on-going feed-back from monitoring is used directly to modify, or affirm, future management actions.