

**UNITED STATES DEPARTMENT OF THE
INTERIOR**

FISH AND WILDLIFE SERVICE

FINAL ENVIRONMENTAL ASSESSMENT:

**ALTERNATIVE REGULATORY STRATEGIES
TO REDUCE OVERABUNDANT POPULATIONS OF
MID-CONTINENT LIGHT GEESE**

SUMMARY

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Abstract: The December index of the Mid-continent lesser snow and Ross' goose population has nearly quadrupled in the last 30 years from 800,000 birds in 1969 to 3.0 million birds in 1998, and continues to grow at a rate of approximately 5% per year (USFWS 1998c). The December index of the Western Central Flyway lesser snow and Ross' goose population has quadrupled in the last 23 years from approximately 52,000 birds in 1974 to 216,000 birds in 1997, and continues to grow at a rate of approximately 9% per year (USFWS 1997a). Collectively,

these central and eastern arctic and subarctic-nesting light goose populations are referred to as Mid-continent light geese (MCLG) because they breed, migrate, and winter in the “mid-continent” portion of North America, primarily in the Mississippi and Central Flyways. These high population growth rates exist even in the presence of an annual Central and Mississippi Flyway (combined) harvest of approximately 607,000 MCLG. Using the factor of 1.6 to adjust winter counts of geese (Boyd et al. 1982) to determine the approximate breeding population, we estimate the size of the breeding population of MCLG to be 5.12 million birds. This is corroborated by breeding population surveys conducted on light goose breeding colonies during spring and summer, which suggest that the breeding population size of MCLG are in excess of five million birds (D. Caswell pers. comm. 1998). Included in these population estimates are 1998 estimates for breeding and non-breeding adult Ross’ and lesser snow geese in the Queen Maud Gulf area northwest of Hudson Bay of 1.29 million and 1.82 million birds, respectively (Alisauskas et al. 1998). These geese are in addition to the millions of geese estimated to be nesting along west Hudson and James Bays where the geese have precipitated severe habitat degradation and on Southampton and Baffin Islands where signs of habitat degradation are becoming evident. The estimate of 5.12 million birds does not include birds that are non-breeding light geese that inhabit areas outside breeding colonies and other un-surveyed areas. Therefore, the total MCLG population far exceeds 5.12 million birds. Assuming a 10% growth rate in the breeding population over the next three years, the population will grow to approximately 6.8 million in the absence of any new management actions. Over the last 30 years, MCLG have benefitted from agricultural expansion in the mid-continent United States and prairie Canada. Vast nutrient rich feeding and loafing areas from prairie Canada to the Gulf Coast have been and continue to be available to the geese during the entire migration period spanning from late August to May. Natural foraging areas, such as coastal salt marshes along the Gulf Coast historically used by the geese during the winter and fall and spring migration periods, were typically limited in size, availability, and suitability. Dependence on those natural foraging habitats limited adult and juvenile survival and kept the populations in check. The shift from limited natural foraging areas to unlimited artificial foraging areas has resulted in a decline in adult mortality and an increase in survival. As a result, more geese were able to survive the winter and return to the breeding grounds in better condition to breed. Unlike winter habitats, breeding habitats did not expand and have become unable to support the rapidly expanding populations of geese which has resulted in the beginnings of ecosystem failure in some areas. Serious habitat degradation problems are obvious throughout the primary breeding areas in northern Canada (Abraham and Jefferies 1997). Recovery of damaged habitat will be slow due to the extent of the damage, the short tundra growing season, and to the continuing damage caused by high goose populations. Experts feel that some badly degraded areas may never recover and project that habitat degradation will continue and expand if MCLG populations continue to grow. MCLG have attained population sizes that are a threat to themselves, other migratory bird populations, and habitat essential to other migratory bird

populations. Avian disease outbreaks often associated with high goose concentrations have increased in the United States claiming numerous other migratory birds. Habitat impacts associated with MCLG have been most closely studied at one site on west Hudson Bay, Manitoba at the La Pérouse Bay colony. Observations of thirty populations of other avian species have declined in the La Pérouse Bay area. Other species are forced to seek habitat elsewhere as MCLG seek out and destroy suitable breeding habitat. These declines suggest that impacts to species other than MCLG are more pronounced and may be occurring in other areas experiencing habitat degradation by MCLG. Preliminary data collected from other areas suggests that indeed the problem is more widespread and involves all of the primary breeding colonies of these populations in Northern Canada. Declining populations of other species suggest the beginning of ecosystem failure indicating that badly degraded habitats can no longer support their inhabitants. The U.S. Fish and Wildlife Service (Service or “we”) believes that MCLG populations exceed long-term sustainable levels for their arctic and subarctic breeding habitats and the populations must be reduced to levels such that the December index (currently 3.2 million) falls to approximately 1.6 million birds. We feel these steps need to be taken soon to protect long-term habitat conditions essential to numerous migratory bird populations and to reduce the risk of avian disease outbreaks frequently associated with high goose populations. In recent years, we have attempted to curb the populations’ growth rates by liberalizing bag and possession limits and extending light-geese hunting seasons to 107 days, the maximum allowed by the 1916 Convention to Protect Migratory Birds (Treaty). Despite an increase in numbers harvested, the actual percentage of the population that is harvested (harvest rate), has declined over the last few years. This indicates that population growth rates are increasing faster than harvest rates and current strategies are not sufficient to stabilize or reduce population growth rates. However, we believe that alternative regulatory strategies designed to increase harvest, in concert with refuge and habitat management programs, still have the potential to be effective and may preclude the use of more direct control measures such as trapping and culling programs. Therefore, we propose to first consider regulatory alternatives which will increase MCLG harvest, reduce MCLG populations to long-term sustainable levels for their arctic and subarctic breeding habitats, and preserve biological diversity in the Arctic.

We considered the following five alternatives to reduce MCLG populations.

Alternative 1. Continue to manage MCLG populations under existing wildlife management policies and practices. This would be the **No Action Alternative**.

Alternative 2. Allow the use of additional hunting methods within current migratory bird hunting season frameworks. This alternative would authorize the use of electronic callers and unplugged shotguns to harvest MCLG during regular open light-geese only seasons when all other waterfowl and crane hunting seasons, excluding falconry, are closed.

Alternative 3. Add an additional permit option to 50 CFR Part 21 specifically for the management of overabundant MCLG populations. The special permit would only be available to a State's conservation or wildlife management agency (State) responsible for migratory bird management. This permit would enhance a State's ability to initiate aggressive MCLG harvest strategies within the conditions that we provide with the intent to increase harvest and reduce the populations. The permit will enable States to use hunters to harvest MCLG, by way of shooting in a hunting manner, inside or outside of the migratory bird hunting season frameworks prescribed by the Treaty when all waterfowl and crane hunting seasons, excluding falconry, are closed. Those States not wishing to exercise this new permit option would continue to operate under the existing regulatory process.

Alternative 4. Add a new Subpart to 50 CFR Part 21 specifically for the management of overabundant MCLG populations. Under this new Subpart, we would establish a conservation order under the authority of the Migratory Bird Treaty Act (see "Authority and Responsibility" below) with the intent to reduce MCLG populations. Similar to Alternative 3, the order would be in the nature such that it authorizes each State to initiate aggressive MCLG harvest strategies within the conditions that we provide with the intent to increase harvest and reduce the populations, but without having to obtain an individual permit. The order will enable States to use hunters to harvest MCLG, by way of shooting in a hunting manner, inside or outside the migratory bird hunting season frameworks prescribed by the Treaty when all waterfowl and crane hunting seasons, excluding falconry, are closed.

Alternative 5 (proposed action). Combine Alternatives 2 and 4. States would have the option of allowing additional hunting methods within their current open light-geese only hunting seasons under certain conditions and/or States could choose to initiate harvest strategies under the authority of a conservation order. The first option would authorize the use of electronic callers and unplugged shotguns to harvest MCLG during regular light-geese only seasons when all other waterfowl and crane hunting seasons, excluding falconry, are closed and remain closed throughout the remainder of the migratory bird hunting season frameworks prescribed by the Treaty. Under the second option, States could operate under the authority of a conservation order. The order would authorize States to initiate aggressive MCLG harvest strategies with the intent to increase harvest and reduce the populations without having to obtain an individual permit. The order would authorize States to use hunters to harvest MCLG, by way of shooting in a hunting manner, inside or outside the migratory bird hunting season frameworks prescribed by the Treaty when all waterfowl and crane hunting seasons, excluding falconry, are closed and within other conditions that we provide.

We propose to afford States a choice to either utilize additional hunting methods to harvest MCLG within current migratory bird hunting season frameworks

prescribed by the Treaty during a regular light-geese only season and/or harvest MCLG under the authority of a conservation order inside or outside of the Treaty frameworks (**Alternative 5**). Under the first option, the use of additional hunting methods within a regular light-geese only season, States may allow electronic callers and unplugged shotguns to enhance hunter participation and hunter success and increase the harvest of MCLG within the regular light-geese only season, ultimately increasing harvest. In order to minimize or avoid take of non-target species, this option may be applied only when all other waterfowl and crane hunting seasons, excluding falconry, are closed. This option will not be available between 11 March and 31 August. MCLG typically migrate northward from the southern portions of their wintering range by 10 March making it unnecessary to employ a strategy to harvest MCLG beyond 10 March in southern and some mid-latitude States. Instead, those States could operate within an existing open regular light-geese season and employ additional hunting methods during a light-geese only portion of the season. Under the second option, a conservation order, States could develop and implement harvest strategies by authorizing the use and availability of additional hunting methods and expanding the time frame in which to harvest MCLG. In order to minimize or avoid take of non-target species, States may only implement a conservation order after all waterfowl and crane hunting seasons, excluding falconry, are closed. MCLG arrive in some mid-latitude and all northern States after 10 March making it possible to utilize a strategy to harvest MCLG after 10 March as long as MCLG are present. States currently unable to harvest MCLG after 10 March will be able to do so under the conservation order. Alternative 5 would include States based on the migration chronology of MCLG and would likely reserve the use of a conservation order to those States that require it. The desired goal of our proposal is to reduce overabundant MCLG populations. In the absence of any new management actions, we expect to harvest approximately 2.0 million birds over the next three years. Furthermore, we expect that the breeding population size will grow to approximately 6.8 million birds in the absence of any management actions. If the alternative action is implemented we expect to harvest 1.25 million MCLG in the first year of implementation, 1.9 million in the second year, and 2.7 million in the third year. Those figures include the approximate 607,000 MCLG currently harvested annually with existing hunting programs. These harvest estimates include both breeding adult and subadult (non-breeding) birds. We stress that the estimated increases in harvest are based on the assumption that all eligible States will participate in the program. We do not think this assumption will be met, therefore our estimates are likely higher than that which may be realized. If the December index falls to 1.6 million birds, the additional hunting methods and the conservation order will be revoked in the absence of an environmental analysis and decision document to the contrary. At a December index level of 1.6 million birds, and using the adjustment factor of 1.6, this would translate to approximately 2.56 million breeding birds in spring. Again, the total spring population will be higher because non-breeding birds and birds outside survey areas are not included in this estimate. Because extensive monitoring programs are in place to track population trends of MCLG,

we will be able to measure the effectiveness of the preferred alternative. Therefore, neither the long-term population status of MCLG, nor the status of other species that could be impacted through the implementation of this alternative, will be threatened. We expect that this alternative will result in an efficient and effective reduction in MCLG numbers and will facilitate ongoing protection and recovery efforts for eastern and central arctic and subarctic breeding habitat essential to numerous other migratory birds. This Environmental Assessment considers short-term options for addressing the ever-increasing MCLG population. In 2000, we will initiate the preparation of an Environmental Impact Statement to consider the effects on the human environment of a range of long-term resolutions for the MCLG population. Completion of the EIS by summer 2002 will afford the Service the opportunity to assess the effectiveness of the current preferred alternative. It will also allow for a more detailed evaluation of options to correspond with the results of the assessment and ongoing MCLG issues.

Information on the status of MCLG, their breeding habitats, the alternatives, and the impacts of the alternatives are presented in this Environmental Assessment. Further information regarding the ecological problems associated with increasing MCLG populations can be found in:

Batt, B.D.J., editor. 1997. **Arctic ecosystems in peril: report of the Arctic Goose Habitat Working Group**. Arctic Goose Joint Venture Special Publication. U. S. Fish and Wildlife Service, Washington, D.C. and Canadian Wildlife Service, Ottawa, Ontario.