DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Parts 20 and 21

[FWS–R9–MB–2008–0113; 91200–1231–9BPP–L2]

RIN 1018–AI07

Migratory Bird Hunting and Permits; Regulations for Managing Harvest of Light Goose Populations

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule and Record of Decision.

SUMMARY: Various populations of light geese (greater and lesser snow geese and Ross's geese) have undergone rapid growth during the past 30 years, and have become seriously injurious to their habitat, habitat important to other migratory birds, and agricultural interests. The U.S. Fish and Wildlife Service believes that several of these populations have exceeded the long-term carrying capacity of their breeding and/or migration habitats and must be reduced. This final rule sets forth regulations that authorize measures to increase harvest of certain populations of light geese. In addition, the rule revises the regulations for the management of overabundant light goose populations and modifies the conservation order that will increase take of birds from such populations. The Record of Decision is also published here.

DATES: This final rule will go into effect on December 5, 2008. The force and effect of the rules made applicable by the Arctic Tundra Habitat Emergency Conservation Act ceases upon the effective date of the final rules adopted here (Pub. L. 106–108, Sec. 3).

ADDRESSES: 1. Copies of the Final EIS are available by writing to the Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, 4401 North Fairfax Drive, MBSP–4107, Arlington, VA 22203.

2. The public may inspect comments during normal business hours in Room 4107, 4501 North Fairfax Drive, Arlington, VA.

3. You may obtain copies of the Final EIS by downloading it from our Web site at *http://www.fws.gov/migratorybirds/issues/snowgse/tblcont.html.*

FOR FURTHER INFORMATION CONTACT: Robert Blohm, Chief, Division of Migratory Bird Management, (703) 358–1714; or James Kelley (612) 713–5409 (*see* **ADDRESSES**).

SUPPLEMENTARY INFORMATION: We regulate the taking of migratory birds under the four bilateral migratory bird treaties the United States entered into with Great Britain (for Canada), Mexico, Japan, and Russia. Regulations allowing the take of migratory birds are authorized by the Migratory Bird Treaty Act (16 U.S.C. 703–711), and the Fish and Wildlife Improvement Act of 1978 (16 U.S.C. 712). The Acts authorize and direct the Secretary of the Interior to allow hunting, taking, killing, etc., of migratory birds subject to the provisions of, and in order to carry out the purposes of, the four migratory bird treaties.

The 1916 treaty with Great Britain was amended in 1999 by the governments of Canada and the United States. Article II of the amended U.S.-Canada migratory bird treaty (Treaty) states that, in order to ensure the long-term conservation of migratory birds, migratory bird populations shall be managed in accord with conservation principles that include (among others): To manage migratory birds internationally; to sustain healthy migratory bird populations for harvesting needs; and to provide for and protect habitat necessary for the conservation of migratory birds. Article III of the Treaty states that the governments should meet regularly to review progress in implementing the Treaty. The review shall address issues important to the conservation of migratory birds, including the status of migratory bird populations, the status of important migratory bird habitats, and the effectiveness of management and regulatory systems. The governments agree to work cooperatively to resolve identified problems in a manner consistent with the principles of the Treaty and, if the need arises, to conclude special arrangements to conserve and protect species of concern. Article IV of the Treaty states that each government shall use its authority to take appropriate measures to preserve and enhance the environment of migratory birds. In particular, the governments shall, within their constitutional authority, seek means to prevent damage to such birds and their environments and pursue cooperative arrangements to conserve habitats essential to migratory bird populations. Article VII of the Treaty authorizes permitting the take, kill, etc., of migratory birds that, under extraordinary conditions, become seriously injurious to agricultural or other interests.

Population Delineation and Surveys

Greater snow geese, lesser snow geese, and Ross's geese are referred to as ''light'' geese due to the light coloration of the white-phase plumage morph, as opposed to true ''dark'' geese such as the white-fronted or Canada goose. We include both plumage variations of lesser snow geese (white, or ''snow'' and dark, or ''blue'') under the designation light geese. Dark phase Ross's geese exist but are uncommon.

Waterfowl managers frequently base management activities on the delineation of populations. In most instances, populations are delineated according to where they winter, whereas others are delineated based on location of their breeding grounds. For management purposes, populations can comprise one or more species of geese. Administrative flyway boundaries also are used to describe population ranges. In our October 12, 2001, proposed rule (66 FR 52077) and the Final EIS, we provided detailed descriptions of light goose species, delineation of various populations, and surveys that we use to monitor the status of the following populations: Greater snow geese, Mid-Continent Population (MCP) of light geese, Western Central Flyway Population (WCFP) of light geese, Western Population of Ross's geese (WPRG), Pacific Flyway Population of lesser snow geese (PFSG), and Wrangel Island Population of lesser snow geese. We refer to the combination of MCP and WCFP birds in the mid-continent region as Central/Mississippi Flyway (CMF) light geese. Procedures for obtaining a copy of the EIS are described in the **ADDRESSES** section of this document.

Population Status and Goals

Population goals for various light goose populations are outlined in the North American Waterfowl Management Plan (NAWMP; U.S. Department of the Interior *et al.* 1998). In addition, Flyway Councils have set population goals for light geese they manage within their geographic boundaries. We compare current population levels to NAWMP population goals to demonstrate that most light goose populations have increased substantially over what is considered to be a healthy population level. We are not suggesting that light goose populations be reduced for the sole purpose of meeting NAWMP population goals.

Greater snow geese—The spring population estimate of greater snow geese increased from approximately 25,400 birds in 1965 to 1,019,000 birds in 2007 (Reed *et al.* 1998, Reed *et al.* 2000; U.S. Fish and Wildlife Service

2007). The population growth rate during 1965–2007 was 8.0% per year, which if sustained will result in a population over 2 million by 2015, and nearly 3 million by 2020. The Atlantic Flyway Council population objective, as well as the North American Waterfowl Management Plan (NAWMP) spring population goal for greater snow geese is 500,000 birds (U.S. Dept. of the Interior *et al.* 1998). Therefore, the population estimate of 1,019,000 birds in 2007 (U.S. Fish and Wildlife Service 2007) is 103% higher than the Atlantic Flyway Council and NAWMP goals.

Lesser snow geese—Lesser snow geese are frequently encountered together with Ross's geese on breeding, migration and wintering areas, thus complicating survey efforts. Winter indices of MCP and WCFP light geese include both of these species. Field studies indicate that MCP light geese are composed of approximately 94% lesser snow geese and 6% Ross's geese (U.S. Fish and Wildlife Service 2007). The WCFP of light geese is composed of approximately 79% lesser snow geese and 21% Ross's geese. The winter index of MCP light geese (lesser snow and Ross's geese, combined) increased at a rate of 3.5% per year from approximately 777,000 birds in 1970, to a peak of nearly 3 million birds in 1998. Following implementation of regulations to increase light goose harvest in 1999, the MCP winter index declined to 2.2 million in 2006, but rebounded to 2.9 million in 2007 (U.S. Fish and Wildlife Service 2007). The NAWMP winter index goal for MCP lesser snow geese is 1 million birds. The Central and Mississippi Flyway Councils have set an upper management threshold (winter index) of 1.5 million for MCP lesser snow geese. The lesser snow goose portion of the peak MCP winter index in 1998 was 198% higher than the NAWMP goal, and 98% higher than the management threshold adopted by the Flyway Councils. Following implementation of regulations to increase harvest in 1999, the MCP winter index for lesser snow geese declined to approximately 2.1 million birds in 2006, but rebounded to 2.7 million in 2007. The 2007 index of lesser snow geese is still 80% higher than the Flyway Council management threshold and 70% higher than the NAWMP goal. The 2000 winter index of WCFP lesser snow geese was 77% higher than the NAWMP winter index goal of 110,000 birds. Flyway Councils have not set a threshold for WCFP lesser snow geese. Following implementation of regulations to increase harvest in 1999, the winter index of the number of WCFP lesser winter geese declined to approximately 111,000 birds in 2006 but rebounded to 135,000 in 2007; still 23% higher than the NAWMP goal.

The NAWMP does not contain a winter index goal for lesser snow geese in the Pacific Flyway (PFSG), but does contain a goal of 200,000 birds for breeding lesser snow geese in the western Arctic. Approximately 76% of lesser snow geese that nest in the western Arctic migrate to PFSG wintering areas (Hines *et al.* 1999). The number of breeding lesser snow geese on surveyed colonies in 1976 was 169,600 birds (Kerbes *et al.* 1999). During the period 1976–2002, the number of breeding lesser snow geese increased at an annual rate of 5.2%, to the most recent estimate of 579,700 birds (Canadian Wildlife Service, unpublished data). This estimate is 190% higher than the NAWMP goal for breeding lesser snow geese in the western Arctic. Including additional non-breeding birds, the minimum total number of lesser snow geese in the western Arctic was approximately 753,700 birds in 2002. In 1999, Hines *et al.* suggested a proactive approach to management of western Arctic lesser snow geese by stabilizing the population at its (then) current level of approximately 500,000 birds, before it escapes control via normal harvest.

Ross's geese—The NAWMP does not contain separate population goals for MCP and WCFP Ross's geese. However, the NAWMP and Pacific Flyway Council (Pacific Flyway Council 1992) utilize a total continental goal of 100,000 breeding Ross's geese. The estimate of 619,100 breeding Ross's geese in the central and eastern Arctic in 1998 was 519% higher than the NAWMP and Pacific Flyway goal. The Pacific Flyway Council also has adopted a continental winter index goal of 150,000 Ross's geese (Pacific Flyway Council 1992). In 2000, the combined winter index total of 408,750 Ross's geese in the MCP, WCFP, and WPRG geographic ranges was 172% higher than the Pacific Flyway Council goal (U.S. Fish and Wildlife Service 2007).

Goose Impacts on Habitats and Other Species

We described the impact of light geese on natural and agricultural systems for various breeding, migration, and wintering areas in our DEIS and FEIS on light goose management and in the October 12, 2001, proposed rule (66 FR 52077). Also, we described the impacts of habitat damage on some local nesting populations of birds, as well as the potential role that light geese may play in outbreaks of avian botulism. Due to the volume of technical information on these issues, we refer the reader to the FEIS and proposed rule for specific details. Procedures for obtaining a copy of the FEIS are described in the **ADDRESSES** section of this document.

Management Recommendations

The Arctic Goose Habitat Working Group of the Arctic Goose Joint Venture recommended a short-term management goal of stabilizing the greater snow goose population at between 800,000 to 1 million birds (Giroux *et al.* 1998a). However, a reduction of the population below this level was recommended if natural habitats continue to deteriorate, or if measures taken to reduce crop depredation do not achieve desired results (Giroux *et al.* 1998a). The Canadian Stakeholders Committee in Quebec adopted a population goal of 500,000 birds to address continued habitat degradation and agricultural depredations in the St. Lawrence valley (Arctic Goose Joint Venture Technical Committee 2001).

In 1997, the Arctic Goose Habitat Working Group recommended a management goal of reducing the number of light geese in the mid-continent region (primarily MCP and WCFP lesser snow and Ross's geese) by 50% (Arctic Goose Habitat Working Group 1997). This suggests a reduction of the combined winter index of MCP and WCFP light geese from the winter 1996/1997 value of 3.1 million to approximately 1.6 million birds.

Light Goose Harvest

Prior to 1999, we attempted to curb the growth of light goose populations by increasing bag and possession limits and extending the open hunting season length for light geese to 107 days, the maximum allowed by the Treaty. Despite liberalizations in regular-season regulations, the harvest rate (the percentage of the population that is harvested) for light goose populations traditionally had been low. Low hunting mortality has contributed to population growth, which further reduced the harvest rate. The decline in harvest rates prior to 1999 indicated that traditional harvest management strategies were not sufficient to stabilize or reduce population growth rates. On February 16, 1999 (64 FR 7507; 64 FR 7517), we authorized new methods of take and a conservation order for light geese in the Central and Mississippi Flyways. These regulations were temporarily withdrawn (June 17, 1999; 64 FR 32778) to prevent further litigation, but were soon reinstated by passage of the Arctic Tundra Habitat Emergency Conservation Act (Pub. L. 106–108) in November

1999. During 1999–2006, the total harvest of light geese in the Central and Mississippi Flyways during the regular hunting season and conservation orders (combined) has ranged from 1.2 to 1.5 million birds. We believe this magnitude of harvest is sufficient to reduce light goose population levels to desired management levels.

Environmental Consequences of Taking No Action

We fully analyzed the No Action alternative with regard to light goose management in our FEIS, to which we refer the reader (U.S. Fish and Wildlife Service 2007). Implementation of the No Action alternative would require that special light goose regulations authorized by the Arctic Tundra Habitat Emergency Conservation Act be revoked. Therefore, light goose populations would resume growth under the No Action alternative. In summary, most light goose populations will continue to increase at rates anywhere from 5–15% per year, depending on the population. We expect breeding colonies to expand spatially as habitat becomes destroyed in core areas. Birds will begin to exploit new areas and repeat the pattern of habitat destruction and colony expansion. In the case of greater snow geese, we expect the population to exceed the ability of migration habitats to support them. Concurrently, we expect goose damage to agricultural crops to increase.

Even if natural causes result in declines of goose populations, it will take habitats a prolonged time period to recover, especially in the Arctic. A variety of other bird species will be negatively impacted as the habitats they depend on become destroyed by light geese. As population densities increase, the incidence of avian cholera among light geese and other species is likely to increase. Significant losses of other species, such as pintails, white-fronted geese, sandhill cranes, and whooping cranes, from avian cholera may occur. This may result in reduced hunting, birdwatching, and other recreational opportunities.

Habitat damage in the Arctic will eventually trigger density-dependent regulation of the population, which likely will result in increased gosling mortality and may cause the population to decline precipitously. Impacts such as physiological stress, malnutrition, and disease in goslings have been documented, and observations of such impacts are increasing. However, it is not clear when natural population regulation will occur and what habitat, if any, will remain to support the survivors. Such a decline may result in a population too low to permit any hunting, effectively closing light goose hunting seasons. The length of the closures will largely depend on the recovery rate of the breeding habitat, which likely will take decades.

In the near term, existing light goose hunting seasons would continue under the No Action Alternative. We have attempted to curb the growth of light goose populations by increasing bag and possession limits and extending the open hunting season length for light geese to 107 days, the maximum allowed by the Migratory Bird Treaty. However, due to the rapid rise in light goose numbers, the harvest rate (the percentage of the population that is harvested) would decline even though the actual number of geese harvested has increased. The decline in harvest rate indicates that traditional harvest management strategies, which would continue under the No Action alternative, are not sufficient to reduce population growth rates.

Environmental Consequences of Preferred Action

We fully analyzed our preferred action in the FEIS on light goose management, to which we refer the reader for specific details (U.S. Fish and Wildlife Service 2007). In summary, implementation of regulations to increase harvest of light geese will reduce various light goose populations to levels we believe are more compatible with the ability of habitats to support them. Furthermore, habitats upon which other species depend will be preserved. Experts feel that nonlethal techniques would be ineffective at significantly reducing the populations within a reasonable timeframe to preserve and protect habitat (Batt 1997). We prefer to implement alternative regulatory strategies designed to increase light goose harvest afforded by the Migratory Bird Treaty and avoid the use of more drastic population control measures.

Implementation of this rule will reduce the number of light geese in the Central and Mississippi Flyways (primarily MCP and WCFP light geese) by 50%. This suggests a reduction of the combined winter index of MCP and WCFP light geese from 3.1 million in 1997 (the year the management objective was established) to slightly less than 1.6 million. During 1999–2002, we acquired experience with regulations similar to those contained in this rule. We determined that implementation of new light goose regulations increased harvest of light geese in the Central and Mississippi Flyways by 41% during 1999–2002 (U.S. Fish and Wildlife Service 2007). We did not include harvest estimates after 2002 in this analysis due to changes in harvest survey procedures. Population modeling indicated that an annual harvest of 1.4 million birds is required to reduce the number of CMF light geese by 50% (Rockwell and Ankney 2000). The estimated harvest of CMF light geese in the U.S. during 1999–2002 ranged from 0.9 to 1.4 million birds. The estimated harvest of light geese in Ontario, Manitoba and Saskatchewan (combined) during 1999–2002 has ranged from 123,000 to 152,000 birds. Therefore, the total harvest of CMF light geese during 1999–2002 ranged from 1.0 to 1.5 million birds. Although a certain proportion of geese harvested in Saskatchewan would have migrated to the Pacific Flyway, the harvest of CMF light geese in North America during 1999–2002 approached, and sometimes exceeded, the annual harvest of 1.4 million birds that is required to reduce the population by 50%. Any harvest in excess of 1.4 million birds in a given year reduces the amount of time required to reach population reduction goals (Rockwell and Ankney 2000). Implementation of these regulations would maintain an annual continental harvest of approximately 1.4 million CMF light geese until management goals are achieved.

Because the winter index of CMF light geese does not represent the entire population, the true population size will be much higher than 1.6 million following a reduction program. Using an adjustment factor of 1.6 (Boyd *et al.* 1982), we estimate that a winter index of 1.6 million would correspond to nearly 2.6 million breeding birds in spring. Adding 30% for nonbreeding birds brings the total population to a minimum of 3.3 million birds following a population reduction program. We believe a population level of 3.3 million birds is more than adequate to ensure the long-term health of MCP and WCFP light goose populations, while still providing for nonconsumptive and consumptive uses of the light goose resource by humans.

The greater snow goose population will be reduced from its peak level of nearly 1,017,000 birds, to the management goal of 500,000 birds. The harvest rate for greater snow geese in the Atlantic Flyway during 1999–2002 ranged from 17% to 24% (U.S. Fish and Wildlife Service 2004). Based on information from the Central and Mississippi Flyways during 1999–2002 (see above), we estimate that authorization of new methods of take (regular season) and a conservation order in the U.S. portion of the Atlantic

Flyway would result in a 41% increase in U.S. harvest of greater snow geese. A 41% increase in U.S. harvest would result in only a 10–12% increase in the continental harvest rate, because the majority of the harvest occurs in Canada. We estimate that implementation of new regulations in the United States would result in a continental harvest rate of 26% for greater snow geese (U.S. Fish and Wildlife Service 2007). Starting with the spring population of 1,016,900 birds in 2006 and applying a harvest rate of 27%, we estimate that the greater snow goose population would be reduced to the goal of 500,000 birds by approximately 2013 (U.S. Fish and Wildlife Service 2007). The magnitude of the impact of this rule is subject to change, depending on the actual population size immediately prior to implementation of any new regulations, size of regular season harvest, and the magnitude of special spring harvest measures in Quebec.

At this time, we do not anticipate population reduction actions for either Pacific Flyway lesser snow geese, or the Western Population of Ross's geese. However, Hines *et al.* (1999) suggested a proactive approach to management of lesser snow geese that breed in the western Arctic that would stabilize the population at its (then) current level before it escapes control via normal harvest. We will implement special regulations to increase take of light geese in the Pacific Flyway if it becomes evident that damage to habitats in the western Arctic necessitates control of light geese that breed there. Any population control actions for light geese in the Pacific Flyway should be designed to minimize negative impacts to Wrangel Island lesser snow geese, which historically have not fared as well as other light goose populations.

Although our intention is to significantly reduce some light goose populations in order to relieve pressures on breeding and/or migration habitats, we have designed it so that these efforts will not threaten the long-term status of these populations. We will carefully analyze and assess the status of light goose populations on an annual basis, using the winter index, periodic photo surveys in the Arctic, banding data, and other surveys, to ensure that the populations are not over-harvested.

We believe that a reduction of certain light goose populations will relieve negative habitat pressures on other migratory bird populations that occur on light goose breeding and wintering grounds and other areas along migration routes. By arresting habitat damage by light geese, other species will not be forced to seek habitats elsewhere, thus avoiding potential decreases in their reproductive success. Further, we expect that, by decreasing the numbers of light geese on wintering and migration stopover areas, the risk of transmission of avian cholera to other species will be reduced.

References Cited

A complete list of references cited is contained in our Final EIS document, and is also available upon request from the Division of Migratory Bird Management (see **ADDRESSES**).

Public Comments and Responses to Significant Comments

We received public comments from 414 private individuals, 24 Federal, State or Provincial agencies, 1 State Representative, 6 Tribal groups, 4 Flyway Councils, and 8 nongovernmental organizations. The majority of comments submitted did not stipulate whether the comments pertained to our proposed rule or the DEIS. Instead, comments tended to focus on certain aspects of our light goose management program in general. Therefore, we have treated comments to both documents together. Below, we provide our responses to comments on the DEIS and proposed rule. Because of the highly interrelated public processes with the proposed rule, DEIS, and FEIS, as an aid to the reader, we have in large part replicated comments we received on the DEIS and our responses contained in the June 2007 FEIS. Due to space considerations, we have provided responses here only to major comments received and refer the reader to the FEIS for responses to all public comments we received. Copies of the public comments are available upon request from the U.S. Fish and Wildlife Service, Division of Migratory Bird Management. Where appropriate, we summarized comments that revolved around a central theme and itemized them as single comments. For some technical or lengthy comments, we have included direct quotes from the comment in order to avoid mischaracterization of the comment.

We received public comments from 414 private individuals. Forty of the individuals made comments during public hearings. A majority (57%) of individuals supported some method of control of light goose populations. Of the 238 individuals that supported population reduction, very few advocated direct agency control. Approximately one-half of those individuals supporting population reduction submitted a form letter containing the following statements: They are concerned hunters and conservationists who care about the burgeoning population of snow geese, which are in need of help to save them from massive population decline; the population has exploded to alarmingly high levels due to changes in agricultural practices and the birds are now a menace to farmers; the population is destroying fragile arctic tundra habitat beyond repair; the management option of letting nature run its course is a no-win situation because the population will crash and millions of farming dollars will be lost and hundreds of thousands of acres of irreplaceable tundra will be destroyed; direct agency control would be costly and inefficient; and, finally, the conservation order approach (including legalization of electronic calls, unplugged shotguns, and extended shooting hours) should be used as a cost-effective way to reduce the population. Another 43 individuals submitted comments simply stating that they supported Alternative B for managing light geese. The remaining comments that indicated support for population reduction centered primarily on making recommendations for changes in methods of take allowed for harvesting light geese, liberalization of regulations during the regular goose season, and expansion of hunting opportunity on government lands.

Most individuals that advocated the No Action alternative opposed any liberalization in regulations that would result in increased harvest of light geese. Many of the comments from individuals opposing management action consisted of a form letter, or portion of the same form letter, containing the following statements: They are strongly opposed to liberalized regulations for snow geese and Ross's geese, which include extending the hunting season, opening wildlife refuges to increased hunting opportunities, and permitting normally illegal hunting methods such as electronic calls and unplugged shotguns; the geese are being blamed for ''damaging'' their ''winter breeding grounds'' (sic), when in reality the geese continue to play a normal role in their ecosystems, modifying vegetation as they normally would; goose reproduction in many areas of the Arctic has already declined in response to reduced food as part of natural population regulation; and finally, that only non-lethal methods of population control should be implemented.

(1) The Environmental Protection Agency (EPA) reviewed the DEIS and stated that they did not identify any environmental concerns with our preferred alternative (Alternative B),

and that the document provides adequate documentation of the potential environmental impacts. The EPA recommended that, following selection of a management approach, the Service should carefully monitor its implementation and remain open to exploring other options as necessary and appropriate. The EPA assigned a rating of Lack of Objection to the DEIS.

We will carefully monitor light goose populations and their habitats following implementation of new management approaches.

(2) The Canadian Wildlife Service (CWS) commented that they, and a clear majority of scientists and managers who have provided information to them, feel that intervention is required to reduce overabundant populations of greater and lesser snow geese. CWS stated that non-intervention would not be a responsible choice. CWS acknowledges that Ross's geese are numerous in comparison to historical numbers and contribute proportionately to the habitat damage observed in conjunction with snow geese. CWS stated that, although Canada has not included Ross's geese in special conservation measures at this time, they would consider regulations to include this species if further experience shows that it is necessary.

We agree that intervention is required and will consult with Canada upon implementation of our management actions. We also agree that Ross's geese are at record high levels and that they are contributing to habitat damage. Consequently, we have chosen to include Ross's geese in our current proposal for management action.

(3) CWS stated that Alternative B is consistent with actions currently being taken in Canada and should be pursued first in order to increase harvest rates in the United States before looking at options involving direct population control. However, CWS indicated that, if Alternative B did not prove successful, direct control may be necessary at some time in the future. Furthermore, assuming success in our approach, the two Federal agencies need to jointly consider approaches for backing away from extraordinary special methods of control as soon as possible.

We have chosen Alternative B as our preferred alternative. If this alternative proves to be unsuccessful at reducing light goose populations, we will consult with Canada to evaluate other management options. We agree that, once population goals are achieved, an exit strategy should be implemented. As we have indicated in Section 4.2.2, certain maintenance regulations may need to remain in place in order to prevent populations from rebounding after population goals are achieved. For example, the conservation order may be suspended once the goal for a particular population is reached. However, additional harvest beyond what would normally be expected with regular goose seasons may be required to prevent the population from rebounding. In such a case, special regulations (*e.g.*, use of unplugged shotguns, electronic calls) can be implemented during the regular season to increase harvest. However, use of such regulations would still require that other waterfowl and crane hunting seasons, excluding falconry, be closed.

(4) The U.S. Geological Survey (USGS) commented that the weight of scientific evidence indicates that several populations of lesser snow geese have increased to such an extent that they present a threat to Arctic breeding habitats. In addition to lesser snow geese, other light goose species (greater snow and Ross's geese) have exhibited similar trends in exponential growth. Some of their populations may currently be contributing to the degradation of Arctic habitats. Scientific evidence indicates that several populations of light geese should be considered overabundant and management actions are required to reduce these populations. The USGS recommends adoption of Alternative B as the most appropriate for short-term management. The available scientific evidence indicates that Alternative A would be ineffective and the other alternatives would be extremely costly and logistically difficult.

Thank you for your comments.

(5) The USGS commented that current science is insufficient to support the statement that lesser snow and Ross's geese are ''known carriers'' of the bacterium that causes avian cholera (DEIS page 64). Preliminary scientific evidence supports this conclusion, but further research is required.

We have modified our characterization of the status of lesser snow and Ross's geese from ''known carriers'' of the bacterium to suspected carriers. As the USGS states, preliminary scientific evidence supports the theory that these species are indeed carriers of the bacterium. We continue to believe that growing populations of light geese increase the likelihood of cholera outbreaks.

(6) The USGS commented that additional scientific information is needed to determine the migration and wintering carrying capacity and habitat degradation impacts of greater snow geese on habitats described in section 3.2.2 of the DEIS.

We agree that additional research will improve our knowledge of the carrying capacity of such habitats. The information provided by Giroux *et al.* (1998) suggests that the carrying capacity of such habitat (whatever it is) has been exceeded.

(7) The USGS commented that preliminary scientific evidence suggests that harvesting greater snow geese during spring in Quebec may negatively affect their body condition and thus reproduction. This raises the question of whether similar patterns may occur in nontarget species that are subjected to this disturbance. Further research may be required to address this concern in all the alternatives.

Conducting further scientific research to obtain information not currently available is beyond the scope of this EIS process. In the Final EIS we have incorporated the findings of recent research on the effects of the spring conservation harvest on greater snow geese. We note that the observed decline in body reserves of greater snow geese on spring staging areas in Quebec was thought to be a result of increased disturbance and reduced access to agricultural foods due to the spring harvest. This supports our contention that light goose populations have increased due to an agricultural food subsidy, which has caused increases in winter/spring survival and reproductive success in light goose populations. We do not view reductions in spring body condition or reproduction of light geese as undesirable. If such factors can help to reduce the population, they should be encouraged until population goals are achieved. Feret *et al.* (2003) indicated that greater snow geese *sometimes* form mixed feeding flocks (*e.g.*, with Canada geese), and hypothesized that the negative impact of the spring harvest could also potentially affect other species. The number of breeding pairs in the Atlantic Population of Canada geese has increased 14% per year during 1997–2006 (U.S. Fish and Wildlife Service 2006), including years in which the spring harvest of greater snow geese has occurred. We note that Canada geese would be the species most likely to be affected by light goose hunting activities, and there is no evidence that this nontarget species has been affected by spring harvest of snow geese. Changes in habitat management and hunting programs on Service refuges take into account the potential effects on nontarget species. Some refuges have chosen not to implement changes in light goose hunting because the refuge manager believed that disturbance to nontarget species possibly would occur. Because hunting for light geese usually takes place in field situations, we

believe that nontarget waterbirds would be unaffected by such activities.

(8) The Central Flyway Council (CFC) expressed opposition to the original four alternatives as written because they are mutually exclusive. The CFC supported Alternative B with modifications through 2005, but felt that Alternatives C and D should be implemented in an additive fashion if progress was not made towards habitat recovery and reducing Central/Mississippi Flyway light goose populations. The CFC stated that a new alternative should be developed if Alternative B cannot be modified to include additional control strategies. The Atlantic (AFC), Mississippi (MFC) and Pacific Flyway Councils (PFC) supported implementation of Alternative B. However, the AFC and MFC urged the Service to plan on implementing Alternatives C and D if management goals are not achieved.

We have retained Alternative B as our preferred alternative. However, we have developed and analyzed Alternative E, which is a new alternative that contains aspects of Alternatives B, C, and D, as suggested by the CFC. This two-phased approach would implement aspects of Alternative B first. Phase two of Alternative E contains aspects of Alternatives C and D and would be implemented if deemed necessary. Under this alternative, actions implemented during phase one would continue if phase two is implemented.

(9) The CFC recommended that decision criteria and a timetable for implementing Alternatives C and D should be developed in advance. These criteria should include habitat trends, light goose population trends, and the effects of overabundant light geese on other species of wildlife.

In developing each of the analyzed alternatives, we wrote them as if they would be implemented immediately upon completion of the EIS process, if chosen as the preferred alternative. Alternative E was written such that phase one would be in place for at least a 5-year period before an evaluation would be made about the necessity of implementing phase two. That evaluation would consider the trajectory of the light goose populations being targeted for reduction. Unfortunately, there are insufficient data available at this time to allow development of specific decision criteria with regard to habitat trends. Habitat studies specified in the Science Needs Documents of the Arctic Goose Joint Venture must be implemented in order to generate data that can be used in developing decision criteria.

(10) The CFC commented that the EIS should be clarified to provide for implementation of actions to resolve geographic or site-specific problems with light goose populations. Potentially, Central/Mississippi Flyway populations may be reduced to overall goals, yet specific populations may remain above desired levels in certain areas of their range.

Our preferred alternative advocates reduction of the number of Central/Mississippi Flyway light geese by 50%. It is clear that in some breeding areas such as La Perouse Bay the ability of the habitat to support geese has been exceeded. However, geese from northern breeding colonies utilize such sites on their northward migration and, therefore, add to habitat damage caused by geese that breed at the site. A general reduction of the number of Central/Mississippi Flyway light geese will help alleviate damage to sites being impacted most severely. The only method of further reducing the number of birds that use such sites is to implement direct control on the breeding grounds in Canada (Alternatives D or E). However, direct control in Canada would have to be implemented by the Canadian Government.

(11) The Ontario Ministry of Natural Resources commented that adoption of the no action alternative is not a responsible approach to the management of these species and habitats. The Ministry also stated that alternatives involving direct agency control are not viewed as the most effective approach at this juncture. With respect to Alternative D, there is significant concern regarding the capacity of the appropriate agencies to deliver a management program that is of sufficient scope and intensity to achieve the desired results.

We agree that the no action alternative is not a responsible approach to light goose management. Alternatives involving direct control will be costly, and it is not likely that agencies can acquire sufficient resources to implement such programs in sufficient scope or intensity.

(12) Many State agencies suggested that methods of take for light geese should be expanded to include a variety of methods, such as use of live decoys, rallying, herding, hazing, model airplanes, rifles, and pistols.

Authorization of new methods of take for light geese in 1999 (*i.e.*, electronic calls, unplugged shotguns, shooting hours one-half hour after sunset) represented a radical departure from decades of strict regulation of waterfowl harvest. Substantial support was expressed during our public scoping process for use of these methods to reduce light goose populations. However, such authorizations were also met with substantial negative public sentiment as well. Arguments for and against various methods often include one's personal view of ethical and non-ethical methods of take, which is not amenable to objective analysis. We believe that our proposed balance of authorizing new, and continued prohibition of other, methods of take is a reasonable compromise. Although authorization of additional methods of take may increase the harvest of light geese somewhat, we believe that such an expansion would be outweighed by erosion of public support for our light goose management program. Furthermore, temporary authorization of numerous methods of take will make it more difficult to enforce prohibition of such methods when they are no longer needed.

(13) The Nebraska Game and Parks Commission (NGPC) commented that the Service must be prepared to justify impacts on nontarget species if/when direct control management actions are implemented. They supported the use of those direct control measures that minimize the impact to other species, but believe that collateral damage is unavoidable in actual operations. The NGPC also commented on this issue and stated that the Service should be prepared to accept significant loss of other wildlife species during control operations in order to reduce light goose numbers. Where possible, attempts should be made to minimize impacts to other species.

In our description of alternatives, we stated that direct control activities should be undertaken such that they do not adversely affect other migratory birds or any species designated under the Endangered Species Act as threatened or endangered. Doing so will require inspection of control activity sites for the presence of nontarget species to determine whether activities should proceed. In situations where live-trapping is used, nontarget species can be released unharmed. If sharpshooters are employed, we believe that impacts on nontarget species will be avoided. At this time we do not believe it is acceptable to undertake control activities that would also result in significant loss of other wildlife species.

(14) A State representative from Delaware commented that snow geese have caused serious damage to crops on his farm and those in the surrounding area. The representative also expressed concern for damage that snow geese are causing to local salt marshes, and the

effects of overabundant geese on the well-being of many other plants, animals, and fish. A concern was also expressed for the possibility of the spread of avian cholera from geese to the chicken industry. The representative fully supports Alternative B and called on the Service to open more of Prime Hook NWR and Bombay Hook NWR to snow goose hunting.

We believe that implementation of Alternative B will reduce the greater snow goose population to desired levels and alleviate damage to agricultural crops and reduce the likelihood of a cholera outbreak. Prime Hook NWR allows ample opportunities to hunt snow geese in 26 marsh blinds during the waterfowl season. Also, field hunting is allowed on 5 different zones on the refuge during the late goose season. The refuge feels they are providing hunting opportunity in areas where it is feasible to hunt snow geese, and in a fashion that is compatible with other hunting programs on the refuge. Bombay Hook NWR staff report that they have provided snow goose hunting opportunity that far exceeds demand at this time. The refuge is close to the maximum of acreage that can be opened to hunting while still providing for the needs of other migratory bird species.

(15) The Assembly of First Nations, representing 633 First Nations across Canada, supported Alternative B as the most humane and least wasteful option, and expressed their concern for light goose threats to other animals and plants, as well as light geese themselves, owing to the destruction of their habitat and food sources in the north. The AFN also commented that the options of allowing for a commercial hunt by Aboriginal people and altering U.S. farm practices (*e.g.*, reducing waste grain) and policies should not be dismissed from consideration. The AFN believes that a commercial hunt by Aboriginal people would support economic development, encourage young people to stay on the land and would support their traditional lifestyle.

With regard to a commercial hunt by Aboriginal people, we point out that the Canadian Wildlife Service does not support development of general commercial activities and take for the purpose of light goose control. They do not wish to establish a short-lived commercial opportunity that could have serious long-term effects on community support for and compliance with regulations. We support the position of CWS and also do not support establishment of commercial activities for light goose control in the United States. With regard to U.S. farm practices and policy, we reiterate that we have no control over U.S. farm policy and believe that attempts to consult with the Department of Agriculture to effect changes solely for the purpose of addressing the light goose issue would have such a minimal chance of success that it is precluded from being a viable management alternative.

(16) The Wampanoag Tribe of Gayhead (WTG) suggested that other indigenous nations of Canada should be contacted to enlist their assistance in the population control program.

We have no authority to enlist the help of indigenous nations of Canada in a light goose population control program. Only the Canadian Wildlife Service, or other Canadian government entity, can undertake such action. The CWS has encouraged native groups, such as the Arviat Hunters and Trappers Organization, to increase their harvest of light geese.

(17) The WTG commented that the number of allowable days for hunting light geese should be expanded to the fullest extent allowed under the MBTA. Splits between other waterfowl hunting seasons should be utilized as light goose only seasons.

Current light goose hunting frameworks already provide the maximum number of days for light goose hunting allowed by the MBTA. Furthermore, light goose only seasons between other season splits are allowed, providing that all other waterfowl and crane hunting seasons, excluding falconry, are closed.

(18) The WTG commented that the requirement to close all other waterfowl and crane hunting seasons when new methods of take are authorized for light geese is disruptive to sportsmen and subsistence users of waterfowl species.

We believe that a closure of all other waterfowl and crane hunting seasons, excluding falconry, is necessary to minimize the take of nontarget species when light goose regulations are implemented.

(19) The WTG commented that, under the USFWS Native American Policy and Executive Orders of the President of the United States, the Service is compelled to consult with Tribal governments on a government-to-government basis. How has the Service complied with these directives in this process?

The Service has a long history of working with Native American governments in managing fish and wildlife resources (USFWS 1994). A list of Native American tribal governments was obtained through our Tribal liaison and was used to distribute the DEIS to tribal governments for formal review and comment.

(20) The hunting season on light geese should not be extended.

The Service is not proposing to extend the light goose hunting season. We do not have the authority to extend the normal hunting season beyond the March 10 season ending date stipulated by the Migratory Bird Treaty Act. We are proposing implementation of a conservation order for the control of overabundant light geese in accordance with Article VII of the Migratory Bird Treaty.

(21) Several individuals expressed opposition to new regulations that allow taking of light geese on wildlife refuges, which they feel should be a safe haven for all wildlife.

The proposed regulations do not open refuges or new areas on refuges to hunting. That type of action would be proposed on a specific refuge by refuge basis. The National Wildlife Refuge System Improvement Act of 1997 amended the National Wildlife Refuge System Administration Act of 1966 to establish that compatible wildlife-dependent recreational uses involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation are the priority public uses of the Refuge System. The National Wildlife Refuge System Administration Act of 1966 stipulates that up to 40% of the area of refuges acquired, reserved, or set apart as inviolate sanctuaries may be opened to migratory bird hunting. The Fish and Wildlife Improvement Act of 1978 amended the 1966 Act to permit the opening of greater than 40% of the area of these refuges to migratory gamebird hunting when it is determined to be beneficial to the species hunted. Therefore, the portion of our light goose management proposal that encourages, where appropriate, increased hunt programs on National Wildlife Refuges is consistent with the purposes of the refuge system.

(22) One citizen commented that public hearings held during the EIS process were held only in rural areas, thus preventing any metropolitan, city, or suburban dwellers from ever commenting on any plans. Therefore, the Service is engaging in biased hearings, soliciting comments only from hunters and farmers.

We held a number of public scoping meetings throughout the United States prior to publication of the DEIS (see **Federal Register** Notice of Meetings in Appendix 2). In addition to Washington, DC, the majority of these meetings were held in large metropolitan areas and often were held in State capitals: Sacramento, CA, Bismarck, ND, Baton Rouge, LA, Dover, DE, Bloomington,

MN (suburb of Minneapolis/St. Paul), and Kansas City, MO. Only 2 of the 9 meeting locations were held outside of large metropolitan areas (Pomona, NJ, and Rosenberg, TX); however they were easily accessible to large population centers. Therefore, we do not believe that meeting locations produced any type of bias in comments submitted by citizens. Another series of public meetings on the DEIS were held in most of the same locations as the scoping meetings. We provided an extensive public comment period during the EIS process that provided all citizens a means to submit written comments on our proposals, either through the mail or electronically to our e-mail address, regardless of the citizen's geographic location.

(23) Several individuals commented that the Service proposal appears to be the result of lobbying by the gun, hunting, and guide/tourist industries.

No lobbyist from any gun, hunting, or guide/tourist industry contacted the Service to urge development of our proposal. Our management plan was based on results from work conducted by research scientists, population and habitat surveys, and on recommendations by scientists from the Arctic Goose Habitat Working Group of the Arctic Goose Joint Venture.

(24) The Service reports that six times as many people participate in nonhunting activities related to migratory birds as compared to hunting them. Times have changed and so must the Service and wildlife agencies.

We examined socioeconomic considerations in section 3.5 of the EIS and reported that more citizens participate in non-hunting than hunting activities related to migratory birds. However, the impacts of overabundant light goose populations will negatively affect a variety of bird species that non-hunters as well as hunters enjoy viewing. Furthermore, revenues generated by Duck Stamp sales go towards acquisition of habitats that support many non-game and game species. The fact that many citizens do not hunt does not negate the fact that increasing harvest is a legitimate wildlife management tool. Furthermore, this issue does not pertain to hunting seasons; the proposed program is designed to protect nesting, migration, and/or wintering areas.

(25) Claims of habitat destruction are based on habitats where no systematic scientific data had been gathered. There were small fenced areas to document effects of heavy goose grazing on plants, but that is not representative of normal ecosystems.

In section 3.2.1 we cited the study by Jano *et al.* (1998) that systematically documented the loss of vegetation at La Perouse Bay using satellite imagery. We also cited the study conducted by Kotanen and Jefferies (1997), who utilized fenced vegetation sampling plots, as well as adjacent un-fenced plots, along a transect at La Perouse Bay to document habitat damage. Fenced and un-fenced plots were sampled during 1986, 1989, and 1995 to systematically document vegetation changes in response to goose grazing. The un-fenced plots were indeed representative of the ''normal ecosystem,'' which in reality was being degraded by geese. We also cited the study conducted by Kerbes *et al.* (1990) that systematically sampled vegetation along the west coast of Hudson Bay during 1993–95 to demonstrate the impact of geese on plant communities. Intensive studies by Iacobelli and Jefferies (1991) and Srvivastava and Jefferies (1996) were cited as they described the effects of goose grubbing on soil salinity and degradation of vegetation stands. Therefore, the comment that claims of habitat destruction are not based on systematically collected scientific data is unwarranted.

(26) The use of a generalized management strategy for all snow geese ignores scientific distinctions and is contrary to historical tradition of managing snow geese.

We have developed population goals for several populations of light geese that incorporate geographic and biological characteristics of each population. Most of these goals have been developed independently through either interactions with Flyway Councils or through the North American Waterfowl Management Plan. Both of these avenues have continued to recognize historical designations of populations and taxa. Light goose regulations will be flyway-specific, and thus have the ability to manage light goose populations with due regard to their status.

(27) The current population goal of 500,000 greater snow geese is much lower than the competing goal set by the Arctic Study Group of 800,000 to 1 million birds, and is based on incomplete information.

Our population goal of 500,000 birds is in agreement with the Atlantic Flyway Council and North American Waterfowl Management Plan population objectives. In 1997, the Arctic Goose Habitat Working Group recommended a short-term management goal of stabilizing the greater snow goose population at between 800,000 to 1 million birds. However, the Working Group recommended a reduction of the population below this level if natural habitats continue to deteriorate, or if measures taken to reduce crop depredation do not achieve desired results. Recently, the Canadian Stakeholders Committee in Quebec adopted a population goal of 500,000 birds to address continued habitat degradation and agricultural depredations in the St. Lawrence valley. The Arctic Goose Joint Venture Technical Committee has adopted the lower population goal. Managers believe the population must be reduced to reduce agricultural depredations, prevent further degradation of migration habitats, and prevent potential degradation of breeding habitats that could occur under high population levels.

(28) Dispersing and fragmenting the flocks can result in a reduction of nonconsumptive use and cause economic loss. Diminishing the flock may incite political action/complaints by millions of bird watchers who journey to see geese. Nonconsumptive users may demand a revision of how the United States treats wildlife.

We examined the socioeconomic impacts of our preferred alternative in section 4.6.2. Implementation of this alternative would preserve the long-term health of light goose populations by slowing the rate of habitat degradation and avoiding a potential population crash, especially in the mid-continent region. Damage to agricultural crops would also be reduced. Nonconsumptive users of light geese may be slightly affected by lower overall populations. However, light geese would continue to migrate in relatively large flocks and visit traditional migration and wintering areas. Therefore, we believe the short-term economic impact of this alternative on nonconsumptive users would be minimal, and the long-term economic impact would be positively enhanced due to maintenance of healthy populations. By maintaining healthy populations we are fulfilling our trust responsibility to U.S. citizens, rather than allowing populations to further damage habitats, cause agricultural depredations, and potentially crash.

(29) The concern about marsh eat-outs by greater snow geese is based on incomplete and incorrect information about historical processes. Kortright gave accounts of eat-outs during the 1930s and 1940s.

Although we stated that the impact of greater snow geese on coastal marshes of the U.S. mid-Atlantic coast appeared to be relatively small prior to the 1960s,

we did not state that eat-outs were nonexistent during that time. Clearly the occurrence and impacts of eat-outs have increased as the population has increased.

(30) The Service is using scare tactics with regard to the issue of avian cholera, as if we are all going to die because of avian cholera. How many people have died of avian cholera?

Avian cholera is a disease that does not affect humans. Our concern with avian cholera is the potential for outbreak of the disease, which could kill thousands of light geese as well as many individuals of other bird species.

(31) One individual commented that the revised treaties relied upon in this EIS are in violation of the existing treaties in force with Mexico, Japan, and the Soviet Union and in violation of the 1918 treaty negotiated with Canada.

The comment is confusing and unclear, as revised treaties are the treaties in force. Regardless, this is a very important comment as it gives us a chance to explain in more detail why this action is in accordance with the authority provided to the Secretary by law. It raises the issue of compatibility with the migratory bird conventions applicable to the birds (light geese) that are the subject of this regulation. The Secretary of the Interior (having due regard for a number of factors that are addressed in this EIS) is authorized and directed by the Migratory Bird Treaty Act to determine when it is compatible with the conventions to issue regulations to allow the take of these birds and their nests and eggs. Of the four migratory bird conventions, three are applicable to the adoption of these regulations: the *Convention Between the United States and the Union of Soviet Socialist Republics* (now Russia) *Concerning the Conservation of Migratory Birds and Their Environment* (1978), the *Convention for the Protection of Migratory Birds and Game Mammals* with Mexico (1937), and the *Convention for the Protection of Migratory Birds* with Canada (1916). With respect to the fourth, the *Convention Between the Government of the United States of America and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction, and Their Environment* (1974), there is no positive evidence that the birds that are the subject of these regulations migrate between Japan and the United States (*see* Article I, Section 1.).

When two or more conventions are applicable to our adoption of regulations, we must ensure the action is compatible with each or, where conventions have provisions on the same specific issue, the more stringent of the provisions. Each of the conventions, negotiated at different times with four different countries, address particular issues important to each country and, because of differing perspectives and needs, contain agreements on similar actions that are presented in uniquely different ways.

The convention with Canada, in addition to including requirements regarding the authorization of the hunting of migratory game birds, the taking of migratory birds for scientific, educational, propagative, and other purposes, and the harvesting of migratory birds and eggs by indigenous inhabitants of Alaska, allows for permitting the killing of migratory birds that are seriously injurious to agricultural or other interests in any particular community (see Article VII). It is our conclusion from all of the information available to us, and which is summarized and referenced in this Environmental Impact Statement, that several light goose populations have exhibited extraordinary growth. Due to their feeding actions, overabundant light geese have become seriously injurious to habitats on various breeding, migration, and wintering areas and in some situations have also caused damage to agricultural crops. Consistent with the same article of the convention, the regulations also provide for the suspension of the permission granted by the regulations to take these birds when such permission is no longer needed to prevent the injuries to the habitat. In furtherance of the overall objectives of the convention, these regulations will help ensure the preservation of these and other migratory birds covered by this convention.

The convention with Mexico provides that for migratory game birds the parties agree to establish ''close seasons'' (unspecified periods or lengths) during which migratory game birds may not be taken (*see* Article II). We read this to relate only to hunting because of the specific reference to ''seasons.'' As such, the agreement to establish close seasons does not apply to the adoption of these regulations because this is not a hunting program. It is a management action that is taken in order to reduce the severe habitat damage that light geese are causing on their nesting, migration, or wintering grounds. There are no other applicable provisions in this convention except the overall purpose to protect these birds ''(i)n order that they may not be exterminated.'' The specificity of the regulations with regard to implementation, monitoring, and reporting, coupled with the revocation and suspension provisions, ensure that this requirement will be met.

The convention with Russia, with a somewhat different approach, contains an agreement that the parties will prohibit the taking of migratory birds generally. It then provides for exceptions, one of which is ''(f)or scientific, educational, propagative, or other special purposes not inconsistent with the principles of'' the convention (*see* Article II). Another is for the purpose of protecting against injury to persons or property (see also Article II). These regulations fall within both of these exceptions. The action not only recognizes that birds of common interest to Russia and the United States ''have common flyways, breeding, wintering, feeding, and moulting habitat which should be protected,'' but the action is designed to protect that habitat. We are ''implementing measures for the conservation of migratory birds and their environment and other birds of mutual interest'' by taking actions available to us to prevent further destruction of breeding and feeding habitat by the unusually abundant light geese. (*See* provisions of the convention introductory to the Articles and see Light Goose Management Final EIS for additional authority discussion).

(32) An individual stated that there are violations of the Ramsar Convention and other conventions to which Canada is a party and, therefore, no action should be taken for depredation of any of these geese, because it is an attempt to violate the hunting limitations of the Migratory Bird Treaty Act of 1918. It presents a major federal action to which Canada is in violation of her treaty obligations and deprives other countries of their food supplies and treaty protections.

Our proposed management action is compatible with the relevant conventions. As we described in Chapter 2 of the EIS, implementation of a conservation order is not in violation of any treaty. This is a management action taken under the authority of the MBTA and is compatible with the relevant conventions. Clearly, no country is being deprived of their food supplies or treaty protections.

(33) Calls for massive goose kills are based on the heretofore unchallenged opinion that just one vegetative community is correct for this ecosystem and that this successional stage should be maintained forever. This view is biologically nïave and ecologically narrow-minded.

We have not stated that a single successional stage should be maintained forever. In fact, in section 3.2.1 of the EIS we document the succession of

habitat change in response to isostatic uplift and goose grazing. However, goose damage has proceeded to such an extent in some areas that no vegetative community exists whatsoever. We do not believe that this can be characterized as a normal state of the ecosystem.

(34) Many commentors submitted identical comments to the effect that, ''light geese have been irrationally condemned for sabotaging their winter breeding habitat.''

There is no such thing as a ''winter breeding habitat.'' We have documented habitat destruction for a variety of breeding, migration, and wintering habitats, depending on the light goose population being examined.

(35) Clearly the best option is to have the sportsmen and women of this country and Canada harvest the surplus of snow geese. This method will come at no cost to the tax payers, is extremely effective, and will help lower the population of lesser snow geese to levels that are safe for both the birds and the environment.

Our preferred alternative advocates continuation of regulations that have allowed citizens to increase their harvest of light geese.

(36) Once the snow goose population is controlled, a spring harvest should still be allowed but the number harvested should be limited.

Once our management goals are achieved it is possible that some form of maintenance regulations will need to remain in place to prevent goose population growth from rebounding. This can be done through continuation of special light goose regulations during the regular hunting season or periodic re-implementation of conservation orders if deemed necessary.

(37) Letting geese and other animals starve to death until the population returns to normal is much crueler than increasing harvest.

We believe that taking no action would ultimately be a waste of the goose resource due to population decline and potential collapse, and would also allow much more habitat to be destroyed before the population is reduced.

(38) Direct control options would incur expenses that would be paid out of tax dollars.

We have presented various expected costs to agencies for alternatives that involve direct control. Our preferred alternative will increase harvest through authorization of new methods of take and a conservation order. This management approach will present minimal costs to agencies versus direct control.

(39) An individual asked if the reason the Service required that other waterfowl and crane hunting seasons be closed is because the Service does not trust the average duck or goose hunter to know what they are shooting at.

Our decision to be cautious in the authorization of a conservation order and new methods of take is based on our desire to eliminate or minimize any potential impacts to nontarget species. We believe that closure of other waterfowl and crane hunting seasons will heighten awareness of this concern and cause all hunters to be judicious in bird identification while pursuing light geese.

(40) Throughout much of its 50-page public comment, the Animal Protection Institute (API) contended that the Service has tried to ''demonize'' light geese. The API states that the species is now thought of as a ''flying rat'' or ''tundra maggot''.

The Service believes that this characterization of our treatment of this issue is unfounded and unfortunate. We believe that we have objectively described light goose populations and their impact on the environment. The Service has a mandate to conserve migratory birds, and we believe that our proposed management action is in the best interest of the long-term health of light goose populations and their habitats.

(41) The API commented that the premise that, under no action, light goose populations would be allowed to increase in size is ultimately untenable. No wildlife population has ever increased indefinitely in size, and there is much annual variation in recruitment rates.

Nowhere in the document do we state that light goose populations would increase in size indefinitely. In fact, in our discussion of impacts of the No Action alternative on light goose populations we state the possibility that density-dependent regulation of the population would occur. In section 3.1.9 of the EIS we reviewed documented population responses to habitat degradation. Because light geese can cheat density-dependence by exploiting new habitats, it is not known how long it will take before a particular population will actually decline. The occurrence of annual variation in recruitment rates, which would affect growth of the overall population from year to year, is clearly indicated in the numerous graphs of population size (or indices) we present in sections 3.1.6 and 3.1.7 of the EIS.

(42) The API commented that the Service rejects those historical data that indicate current light goose population sizes are not unprecedented. While the rejection is based on the fact that the early indicators are anecdotal, and thus cannot be compared to current statistics obtained from more objectively employed techniques, there is no logical reason to assume that early estimates must be hugely in error. While we cannot know that light goose numbers were never as high as they currently are, we cannot know that they were not.

We contend that ''historical data'' (*i.e.*, anecdotal accounts, often of only individual flocks of birds) or ''early estimates'' cited do not constitute estimates of the size of light goose populations prior to the implementation of systematic surveys. Accounts of individual flocks, or counts in a very limited geographic area, do not even remotely approach a population estimate. Therefore, a discussion of whether or not such supposed estimates are hugely in error is pointless. In the absence of reliable data and population estimates from pre-survey periods, we must base our management program on information from our systematic surveys that indicate population levels are at historic highs.

(43) The Humane Society of the United States and the Animal Protection Institute submitted lengthy comments that, in part, questioned whether light goose population levels documented in the DEIS are unprecedented. For example, they cited Lynch's (1975) account of approximately 185,000 geese in a single flock at Oyster Bayou (Louisiana) in the late 1930s, but that only 368,000 birds were counted in the entire winter survey of the Mississippi Flyway during 1954/55. They also cited Lynch's (1975) account of apparent declines in light geese using the Mississippi Delta as support for the hypothesis that the number of light geese in the mid-continent region had been at high levels prior to implementation of systematic surveys and that current high levels are not unprecedented.

Lynch's (1975) account of a single flock of 185,000 birds at Oyster Bayou in the late 1930s coupled with the entire flyway count of 368,000 in 1954/55 does not lend support to the hypothesis that goose populations existed at previously high numbers. Geese did not exhibit drastic changes from their tradition of utilizing a narrow band of saltmarsh habitat along the Louisiana coast until the 1940s (Bateman *et al.* 1988). Therefore, the count of 185,000 birds in a single flock during the late 1930s may have represented a large percentage of the entire wintering population. In the 1955 winter count of geese in the entire Mississippi Flyway, 98% of the 368,000

birds were counted in Louisiana (Fronczak 2003). As in 1955, we believe it is highly likely that Louisiana harbored the majority of light geese wintering in the Mississippi Flyway during the late 1930s when Lynch made his observations at Oyster Bayou. Therefore, it is not surprising that he was able to count a large number of birds in a single flock. However, such observations do not support the hypothesis that numbers of light geese previously existed at levels comparable to today.

In his discussion of goose population declines, Lynch (1975) clearly was documenting a decline in the number of birds using the Mississippi Delta region of Louisiana. Lynch cited counts of ''about 300,000'' birds wintering on the Active Delta of the Mississippi during the late 1930s and early 1940s, but aerial surveys of the same region in the 1970s produced estimates of only 50,000 birds. Lynch stated that, ''Obviously the Snows and Blues formerly using this region have dropped greatly in numbers.'' We see no information in these accounts that support the hypothesis that the number of mid-continent light geese previously existed at levels that were as high as, or higher, than those that exist today. Lynch was simply stating that the number of birds using a *specific geographic area* had declined, and that ''perhaps they moved westward to the Vermillion Bay marshes and other portions of southwest Louisiana'' (Lynch 1975: 15). Furthermore, Lynch (1975:24) stated that some declines of geese at specific geographic areas ''undoubtedly reflects geese that now were lingering in inland States for longer periods during fall migration, and making some attempts to overwinter at such places.'' Lynch also cited decreases in reproductive success in the arctic as a potential factor, or that some birds may have shifted their nesting grounds westward, which would cause them to migrate to wintering areas west of the Mississippi Delta (*i.e.*, southwest Louisiana and east Texas). We conclude that any perceived decline in goose numbers in a particular region was primarily a redistribution of goose wintering grounds and not an actual decline in numbers. We reiterate that comparison of anecdotal accounts of light goose population size with data derived from systematic surveys cannot be used to prove one way or another whether populations previously existed at levels comparable to today. However, we must base our management decisions on reliable survey data that indicate steady population growth.

(44) The HSUS claims that some researchers, in particular R. Alison, have suggested that separating the Mid-Continent Population of light geese into Central Flyway and Mississippi Flyway components will show that, while light goose populations in the Central Flyway have increased, those in the Mississippi Flyway have declined in the past decade.

We disagree that the data from the two flyways indicate that the number of MCP light geese in the Mississippi Flyway has declined. Prior to the implementation of the conservation order in the 2 Flyways (1999), the number of MCP light geese in the Mississippi Flyway increased from 1.0 million in 1988 to over 1.9 million in 1998. During the same time period, the number of MCP light geese in the Central Flyway portion of the range increased from 736,000 birds in 1988 to over 1.0 million birds in 1998. Clearly, the number of MCP light geese in each Flyway has been increasing.

(45) The API referred to work conducted by J.F. Scarry and C.M. Scarry that documented the occurrence of snow geese (presumably greater) in archaeological sites in North Carolina. From the frequency with which these bones occur in some coastal regions, and given the lack of pump-action shotguns available to early native people, it seems prudent to at least acknowledge the likelihood that abundant populations of greater snow geese occurred before, leaving no lasting ''damage''.

Presence of greater snow goose remains in archaeological sites merely points to the existence of the species prior to European settlement. We do not believe the presence of such findings can indicate a likelihood that the population once existed at a level as high as, or higher, than that which exists today.

(46) The API questioned our use of information regarding changes in the winter distribution of light geese as it relates to habitat carrying capacity and population growth (DEIS Figure 3.13). They stated that it is contentious to assume that the carrying capacity of the ''original coastal marsh wintering range'' is somehow equal to what existed prior to the 20th century. A wintering range expansion does not equal an increase in bird numbers.

We do not understand the concern that prompted the comment. In our review of migration and wintering ecology of CMF light geese, we merely reviewed the available information concerning goose distribution and habitat use on the Gulf Coast. We did not state that range expansion equates to population growth. However, the available information suggests that geese formerly restricted their activity to a narrow band of brackish salt marsh. This pattern was exhibited until the 1920s in Texas, and the 1940s in Louisiana (Bateman *et al.* 1988). We have no way of documenting the carrying capacity of the coastal marshes prior to the 20th century, or even during the 1920s and 1940s. As the comment acknowledges, the original coastal marsh range has undergone enormous change in the last century. However, much of that change has undoubtedly occurred after the 1920s and 1940s. Therefore, it is not inconceivable that the carrying capacity of the marshes immediately prior to the 1920s was still fairly high. Our review focused on the increased use of agricultural land by geese once such land came into closer proximity to the wintering marshes. We believe that use of this new habitat allowed geese to increase the amount of food available to them, which likely led to increased survival rates and contributed to population growth.

(47) The API commented that the Service has failed to adequately demonstrate a need to reduce light goose populations within the context of Article VII of the U.S.-Canada Migratory Bird Treaty. The ''extraordinary conditions'' mentioned in Article VII have not been identified. If alleged habitat damage is the result of extraordinary conditions, then what are those conditions? Does extraordinary refer to phenomena such as global warming or grain subsidies?

We have already documented how light geese have become seriously injurious to arctic breeding habitats. Furthermore, we believe that high population levels documented through extensive survey methodology, combined with habitat damage, represents an extraordinary condition. In addition, we have not relied solely on Article VII of the Treaty to support our call for reduction of light goose populations. As we outlined in section 1.6 of the FEIS, Article II of the amended Treaty states that migratory bird populations shall be managed in accord with conservation principles that include (among others) provision for and protection of habitat necessary for the conservation of migratory birds. We have concluded that reduction of light geese will result in a protection of habitat essential to light geese, as well as other migratory birds. Article IV of the Treaty states that each government shall use its authority to take appropriate measures to preserve and enhance the environment of migratory birds. We contend that our proposal will

help preserve those portions of the arctic environment inhabited by light geese. Article VII authorizes take of migratory birds that, under extraordinary conditions, become seriously injurious to agricultural or other interests. Therefore, our proposal to increase take of light geese to alleviate this situation is warranted.

(48) The HSUS cited Robertson and Slack's (1995) caution that recent and projected future declines in rice acreage, and increases in urbanization in Texas coastal areas, may result in sudden lesser snow goose declines. The HSUS urged the Service to consider trends in agricultural production and further wetland losses in the Final EIS.

We have reviewed the paper cited by the HSUS, which we were not aware of during preparation of the DEIS. We note that Robertson and Slack (1995) presented a variety of potential scenarios, or combination of scenarios, for future lesser snow goose populations wintering on the Texas coast in response to changes in agriculture and urbanization. One scenario involves snow geese simply expanding their winter range in search of suitable feeding habitat. Alternately, geese may continue to winter in the same region and use remaining agricultural and/or natural marsh habitats. If birds are unable to find suitable habitats, winter mortality may increase through starvation and disease. In addition, productivity may decline if birds begin spring migration in poor condition and they are unable to obtain nutrient reserves necessary for reproduction. Despite changes in Texas agriculture and urbanization cited by Robertson and Slack, the number of light geese in the mid-continent region has continued to increase. Given the ability of light geese to adapt to new food supplies on the wintering grounds, we believe it is more likely that geese will expand their wintering range in search of suitable feeding habitats, rather than experience a sudden decline. Finally, we note Robertson and Slack (1995) indicated that empirical data do not exist to allow predictive modeling of the snow goose population wintering on the upper Texas coast. Examination of trends in agricultural production and wetland losses is beyond the scope of this document. Considering all of the above, if light goose populations declined to levels consistent with our management goal we would take action to suspend a conservation order.

(49) The HSUS commented that the DEIS considers all mid-continent light geese—and in some cases all North American light geese—as if they constituted a single population, regardless of the location of their Arctic breeding grounds.

In section 3.1.1 of the EIS, we clearly defined three different taxa of light geese in North America: Greater snow geese, lesser snow geese, and Ross's geese. Furthermore, in section 3.1.3, we clearly defined the various populations of light geese found in North America and described their breeding, migration, and wintering ranges. We noted in the DEIS that the term mid-continent light geese is used simply to refer collectively to the Western Central Flyway Population (WCFP) and Mid-Continent Population (MCP) of light geese that migrate through and winter in the mid-continent region. Our analysis of Alternatives A–E clearly presented the anticipated impacts on several distinct populations of light geese.

(50) The HSUS commented that some breeding colonies have experienced recent sharp declines even as others are increasing in size. Therefore, hunting pressure distributed widely throughout the United States (even if primarily concentrated within a particular flyway) will not necessarily result in targeted decreases of goose populations in those Arctic breeding areas that are being impacted most severely.

Breeding areas that are presently being impacted most severely by mid-continent light geese are located on the western Hudson Bay coastline. These sites are impacted the most because geese from a variety of breeding colonies migrate through and utilize the region on their way to more northern breeding sites. This feeding pressure is in addition to that resulting from birds that normally breed on such sites. Therefore, if population reduction is targeted only at sites where habitat degradation is most severe, it will necessitate removal of birds that would normally breed at a variety of colony sites; some of which are far removed from the site of habitat damage. Consequently, we believe that reduction of goose numbers in the United States will alleviate pressure on breeding habitats in a manner very similar to that which would occur if population reduction occurred only at damaged breeding sites. The HSUS did not specify which breeding colonies they believed to have experienced sharp declines. It is true that the number of geese nesting at *traditional* colony sites at La Perouse Bay has declined due to habitat degradation; however, the number of geese in the overall population nesting at La Perouse Bay and surrounding Cape Churchill area has increased (Cooch *et al.* 2001).

(51) The HSUS commented that the proposed increase in hunter-induced mortality will most likely lead to compensatory population growth. Decreased local competition for food and increased reproductive output and survival will likely bring these populations quickly back up to levels perceived to be too high. Thus the plan may either result in no change in foraging pressure on breeding grounds or will allow only brief respites from high-intensity goose foraging. In contrast, allowing a natural crash in the goose population, or, in the short term, dispersal away from heavily grazed areas via the No Action Alternative may be more likely to allow for long-term habitat recovery.

Our preferred alternative calls for retention of maintenance regulations that would ensure that harvest remains at a magnitude sufficient to prevent populations from rebounding once they were lowered to desired levels. We believe that allowing further habitat damage to occur while waiting for a population crash to occur at some time in the potentially distant future would be irresponsible. The benefit of immediately reducing the population to management goal levels, which still provide for the existence of numerous birds, would far outweigh the negative impacts associated with cumulative habitat destruction that would occur prior to any population crash that would occur in the distant future.

(52) The HSUS commented that the Service implies that the plant community inside the fenced goose exclosure areas represents a natural plant community and, therefore, is a picture of what the breeding grounds should resemble. However, the exclosed area lacks a dominant herbivore and increased plant biomass within exclosures does not indicate the ecosystem contains a destructively high density of geese. Exclosure studies are generally useful in determining the relative effects of herbivore populations on the composition of the local plant community and should not lead one to believe that the exclosed area represents what is ''normal''.

We presented results of exclosure studies to illustrate two points. The first point being that sites that receive goose exclosures *after* being destroyed by the feeding action of geese do not experience re-vegetation even after 15 years. The second point is that experiments where goose exclosures are placed on intact stands of vegetation show that geese remove nearly all vegetation on sites where they can feed outside of the exclosure. Obviously, the purpose of such experiments is to remove (via exclusion) a dominant herbivore from a site; however, we did not state that vegetative stands within

fenced areas represented a ''normal'' situation. We agree with the comment that exclosure studies are generally useful in determining the relative effects of herbivore populations on the composition of the local plant community. The results of the studies we cited show that geese can reduce the composition of the local plant community to zero or near-zero species.

(53) The API commented that the Service states there may be little or no chance of plant recovery within 25–50 years after geese remove vegetation. However, due to isostatic uplift such areas will be much further inland after that amount of time. Newly emerging sea floor begins innocent of marsh vegetation, but the Service would have us believe that it will forever remain that way.

Studies indicate that, once vegetation is removed by geese, soil chemistry changes such that revegetation is affected. In some cases the soil on such areas is eroded away completely. Therefore, it does not matter where on the coastal marsh/upland habitat continuum the land resides in 50 years. Conditions likely will not be favorable for any type of plant establishment. Thus, if the land was further inland it would seem that upland species would be affected. We have never stated, or tried to have the reader believe, that newly exposed sediments would not be colonized by marsh plants. However, in the DEIS (page 52) we did state that, ''although isostatic uplift creates new salt marsh habitat as new land is exposed, the rate of increase of new habitat is too slow to keep up with the rate of habitat destruction caused by the increasing light goose population.''

(54) The HSUS commented that a normal process of plant community succession in the salt-marsh habitats tends to produce a shift in plant types, from the preferred goose food plants, Puccinellia and Carex species, to Calamagrostis and Festuca species. Foraging activities of lesser snow geese and Ross's geese at low to moderate densities delay this succession but do not prevent it. Isostatic uplift and frost heave development both gradually reduce salinity over time, further favoring the switch to plants that are salt-intolerant and not preferred by geese. Tidal action also deposits dicotyledon seeds in goose foraging areas (Hik *et al.* 1992). According to Hik *et al.* (1992) this successional change has the result that ''swards dominated by Puccinellia * * * are irreversibly lost from the system,'' however, the authors define the length of this irreversible loss as 10–50 years. This is a long time from the perspective of a human but is not a considerable amount of time for an Arctic salt marsh ecosystem as a whole. Overgrazing of some types of preferred food plants due to a high goose population may actually speed up a shift in plant community composition. Regardless of the rate, this represents a normal ecological process that eventually results in a much more diverse secondary plant community. When grazing is accompanied by intensive grubbing, the grubbing and erosion may expose bare sediment and may require a longer period of time (probably on the order of 50–150 years) for the aforementioned assemblages of plants to reestablish (Hik *et al.* 1992, Srivastava and Jefferies 1996).

We note that Hik *et al.* (1992) utilize the term ''destruction'' when describing the impact of high numbers of geese on the vegetation communities they studied. With regard to the statement that isostatic uplift and frost heave development gradually reduces salinity over time (Hik *et al.* 1992), we note that this passage comes from Hik *et al.*'s paragraph describing plant community change *in the absence of goose grazing* (Hik *et al.* 1992:403). In our reading of Hik *et al.* (1992), nowhere do we see that they define the length of ''irreversible loss'' as 10–50 years. Instead, Hik *et al.* (1992:404) state that, ''As time proceeds * * *, the swards dominated by *Puccinellia* (A) are irreversibly lost from the system (10–50 years), due to the effects of isostatic uplift.'' We interpret this statement to mean that, as isostatic uplift acts on the system, it will take 10–50 years for the *Puccinellia* swards to be converted to other plant communities. However, once the *Puccinellia* sward is lost it will not come back in 10–50 years (as suggested by the commentor)—it is ''irreversibly lost from the system'' (Hik *et al.* 1992). We sincerely doubt that Hik *et al.* would use the term ''irreversible'' if the *Puccinellia* sward could re-establish in as little as 10 years. Hik *et al.* (1992) further state that, ''Where extensive grubbing and grazing have occurred in recent years on the La Perouse Bay salt-marsh, the plant assemblages characteristic of the states we have described become extinct * * * across the entire salt-marsh an estimated 50% of the vegetation has disappeared between 1985 and 1991 as a result of grubbing and subsequent erosion. Erosion of organic layers and sediments makes it unlikely that the assemblages of plants will re-establish within 50 years. These changes coupled with those associated with the progressive effects of isostatic uplift indicate that when such areas are recolonized the species will be different from the former assemblages. Hence, on a longer time scale (c. 100–150 years) non-equilibrium conditions prevail.'' This statement does not mean that those plant assemblages necessarily *will* re-establish after 50 years. We acknowledge that some type of plant community may eventually (whether it be 50, 100, or 150+ years) establish itself on sites formerly destroyed by geese. However, information available to us suggests that such communities will have diminished value to wildlife.

(55) The API commented that, to the lay public, ''desertification'' conjures images of the Saharan sand dunes, or perhaps Catalina Island once the goats got through with it, but that is, emphatically, not what is happening even with regard to the most extreme and extensive removal of vegetation by ''light'' geese anywhere on their breeding grounds.

The end point of a desert is not intended by the term desertification (Jefferies *et al.* 1995:204). We are using the term as applied by Jefferies *et al.* (1995).

(56) The HSUS has produced video documentation during a flyover of the coastal regions from La Perouse Bay west and then north. The video shows vast areas of intact vegetational communities. On-the-ground still photos taken by the Animal Protection Institute show areas of mudflat interspersed with green vegetation taken within view of the fence of the research encampment. On the other hand, the Service document shows dramatic pictures of desert-like barrens and a satellite image of cumulative damage at La Perouse Bay ''caused by light geese'' over a ten-year period. The red areas in the satellite photo are not desert; they are areas either bare of above-ground vegetation or are incomplete vegetation where complete means vegetation not significantly acted upon by light geese and/or other herbivores.

We have viewed the HSUS video and believe that videos taken at the altitudes flown would not be able to demonstrate a difference between an ''intact vegetational community'' and a damaged or overgrazed area. It is believed that 65% of the 135,000 acres of coastal salt marsh habitat is damaged or overgrazed, however from the video this impact may not be detected. For example, an overgrazed area may have been converted to a moss carpet after removal of sedges by geese; however such an area would look green from the air. Only 35% of the marsh habitat is considered destroyed. Therefore, the video would potentially show a large amount of habitat mistakenly identified

as an intact vegetation community. With regard to the satellite photo, the Animal Protection Institute failed to mention that the caption of this photo stated that in 1973 the areas in red had *complete* vegetation cover. In 1993 such areas were either bare soil or incomplete plant cover. Figure 3.20 of the DEIS also shows green vegetation interspersed in mudflats. These vegetation patches tend to be willow stands that eventually will die as soil salinity increases, as illustrated on page 35 of Abraham and Jefferies (1998). Furthermore, the satellite photo study documented a 20-year change in vegetation, not 10 years as the comment stated.

(57) The HSUS commented that the reason for increased grubbing by resident and migrant geese at La Perouse Bay appears to be a combination of cooling trend in northern breeding habitats and increased temperatures at more southerly sites. If the increase in the size of the staging population in the southern areas is responsible for alleged habitat damage, then it would appear that increasingly late snowmelt in northern areas and global environment change is causally related to damage in at least some areas. The Service argument that agricultural subsidies are causally related to arctic damage by snow geese is, therefore, flawed.

We have stated that increased numbers of light geese, not climate change or agricultural subsidies, are responsible for habitat damage in arctic and sub-arctic nesting areas. We believe that agricultural subsidies and climate change are plausible causative factors in the growth of light goose populations. Abraham and Jefferies (1997) reviewed the occurrence of climate changes in northern and southern goose nesting areas, and we have incorporated this discussion in the Final EIS. Abraham and Jefferies (1997) reported that the center of the lesser snow goose breeding range has shifted south to areas with a less severe climate (*i.e.*, rather than climate change *in situ*), which would allow for earlier nesting dates. With earlier nest initiation dates and longer growing seasons, higher average annual production would result in population growth of southern colonies such as Cape Henrietta Maria or La Perouse Bay. However, the slow growth of each of these colonies in the first two decades following their establishment argues against this phenomenon as being the sole mechanism to account for population growth. Jefferies *et al.* (1995) also reported on the occurrence of increased number of migrants staging at southern sites in some years due to colder temperature in more northern areas. Regardless of factors that impact the distribution of birds, it is the overall increase in the number of birds that has resulted in habitat damage. Not only has damage been documented on southern sites, but damage has also been documented in northern areas of the central Arctic. Abraham and Jefferies (1997) stated that agricultural subsidies have been the major influence enabling geese to increase in recent decades, whereas climate warming and expanded breeding range were cited as likely secondary causes.

(58) The HSUS commented that, with regard to greater snow geese, damage to freshwater breeding habitats has not been documented and goose numbers appear to be below the estimated carrying capacity of the habitat. Also, greater snow goose colonies do not experience waves of migrant flocks traveling to more northerly colony sites, as happens with habitats in La Perouse Bay. The ecosystems used by greater snow geese may be quite different from saltwater habitats and birds may not be able to expand their breeding range. These differences suggest that greater snow geese may not be capable of creating a large impact on vegetation. There is no justification in terms of breeding habitat vegetation for reducing the greater snow goose population. Despite these differences, compared to the situation in the mid-continent region, the Service concludes that the greater snow goose population will increase as rapidly as birds in the mid-content region. Thus, liberalization of regulations in the Atlantic Flyway would constitute a large-scale preemptive strike that is unfounded.

In section 3.2.1 of the EIS, we described the interaction of greater snow geese and their breeding habitats. At the population levels observed during the mid-1990s, geese maintained the vegetation in a low-level steady state. Unlike the situation where moderate grazing by lesser snow geese on salt-marsh plants can increase plant quality and quantity, grazing by greater snow geese has not shown such an ''overcompensation'' effect. In addition, fecal matter deposited by greater snow geese in freshwater habitat does not appear to have the same fertilization effect that occurs with lesser snow geese in salt-marsh habitats. We do not view the differences in relationships with plants between the greater and lesser snow goose as a valid argument that greater snow geese are not capable of creating a large impact on vegetation. In fact, given the differences cited, it is possible that greater snow geese may have an even greater potential to damage habitat. They simply have not reached the population size where such damage is likely. We forthrightly cited the study by Masse *et al.* (2001) that indicated greater snow geese were below the carrying capacity of habitat on Bylot Island. We note that Bylot Island hosts only about 15% of the total breeding population. In section 3.1.6 of the EIS, we documented that the greater snow goose population was indeed growing *faster* than light goose populations in the mid-continent region. Given the rapid growth rate in the absence of increased harvest, it is clear that the carrying capacity will eventually be reached and likely exceeded if management actions are not implemented. Justification for population management does not need to be restricted to impacts on breeding habitats. We also believe the population needs to be reduced in order to prevent further damage to natural marsh habitats on migration and wintering areas and to reduce agricultural depredations by geese. Therefore, we do not believe the preemptive reduction and stabilization of the population is unfounded

(59) The document does not represent a fair economic assessment with regard to greater snow geese because only data pertaining to agricultural crop depredations are included. Economic impacts from other activities, such as people viewing geese or hunting them, should be included. Omission of such information reflects an inherent bias of the document in favor of further demonizing light geese in support of the Alternative B.

In section 3.5.1 of the EIS, we clearly outline economic impacts associated with snow goose hunting in the U.S. portion of the Atlantic Flyway. Furthermore, in section 3.5.2, we addressed the reasons why it is not possible to determine the economic impacts associated strictly with nonconsumptive uses of light geese in the United States. In the FEIS we have included information from a recent CWS report that examined the economic impact of waterfowl migration through Quebec (Canadian Wildlife Service 2005). The report provided insight to the economic impact of nonconsumptive uses, especially with regard to greater snow geese and Canada geese. The total annual economic benefit of nonconsumptive use of waterfowl migration through Quebec was estimated to be over $24 million (Canadian $$). Of this total, more than $19 million can be attributed to birdwatching activities at four main migration sites in Quebec. Additionally, $5 million annually was generated by two greater snow goose festivals, one Canada goose festival, and operation of associated educational centers

(Canadian Wildlife Service 2005). We also included data on compensation paid to farmers in Quebec merely to point out the increase in depredations that have occurred with increasing numbers of geese. A reduction in the goose population should alleviate such damage while still providing ample opportunity for nonconsumptive users to enjoy views of staging geese.

(60) The API commented that the Service's language with regard to the issue of avian cholera is disingenuous and is designed to mislead the reader into assuming that light geese are exceptionally a causative factor, perhaps ''the'' causative factor, in the occurrence of serious outbreaks of cholera. The Institute questioned why the Service is concerned that whooping cranes are a species ''potentially affected'' by cholera, but that the Service is not concerned about whooping cranes being a ''potentially shot'' species as a result of ''encouraging kill-oriented hunters to shoot long-necked white waterbirds with black wing tips.''

Our language with regard to the issue of avian cholera is the result of examining several scientific publications that point to lesser snow and Ross's geese as being reservoirs for the bacterium that causes the disease. Nowhere in our document do we state that light geese are the only reservoir for the bacterium. We focus on light geese as being a reservoir because (1) the EIS is a document dealing with light goose management and (2) the available scientific papers dealing with this disease continually cite light geese as being prominent carriers. We have included the discussion of whooping cranes as being potentially affected by cholera because we are required to address how special status species may be affected by light geese. Furthermore, the statement that we are not concerned that whooping cranes are a ''potentially shot'' species is unfounded because we specifically deal with that issue in sections 3.3.3 and 4.5.2 of the EIS, with regard to the Whooping Crane Contingency Plan.

(61) The HSUS commented that the link between light geese and avian cholera outbreaks is ''shaky at best''. Samuel *et al.* (1999) cite previous unpublished work suggesting that 50% of adult snow geese infected with *Pasteurella multocida* may survive the infection ''and thus a portion of these birds may be carriers of the bacteria.'' The HSUS stated that ''it is a leap to then assume that the presence of antibodies after an infection necessarily means that an individual is capable of acting as a carrier.'' Even if 5% of the population were carriers of the disease, it is highly unlikely that hunter-induced mortality would significantly reduce the number of carrier birds from the population.

The above comment refers to a statistic about the percentage of infected snow geese following cholera outbreaks on Banks Island in the western Arctic (Samuel *et al.* 1999). In the same paragraph in which the statistic was included, Samuel *et al.* (1999) stated that: (1) Three major outbreaks of cholera occurred at Banks Island between 1991 and 1996; (2) 50% of the birds infected during cholera outbreak survived and thus a portion of these birds may be carriers of the bacteria; (3) there is evidence that cholera has become endemic in Banks Island snow geese; (4) the Banks Island population ''may play an important role in transmitting this disease to other waterbirds, especially to wintering areas where many species are concentrated.'' Also in the same paragraph, Samuel *et al.* (1999) cite other studies indicating that ''snow geese have been suspected of playing an important role in distributing avian cholera because mortality patterns have coincided with snow goose migration in the Central and Mississippi flyways (Brand 1984) and with the arrival of snow geese in California (J.G. Mensik, United States Fish and Wildlife Service, personal communication). In addition, regular mortality has been observed in northward migrating lesser snow and Ross's geese in Saskatchewan (Wobeser *et al.* 1979, 1983) and snow geese have frequently been involved in larger cholera outbreaks.'' In light of the above studies, the Service does not believe it is unrealistic to assume that light geese exposed to the disease can act as carriers. We do believe that reducing the number, and thus density, of light geese will reduce the likelihood of disease outbreaks.

(62) The HSUS commented that the Service may argue that the main concern regarding cholera is with the density of snow geese and the fast rate of disease transmission that may result. Information provided in Friend (1999) states that attempts to reduce populations of migratory birds that may speed disease transmission can be justified only under special circumstances and conditions, including complete eradication and prevention of dispersal of potentially infected birds. Therefore, increased hunting pressure would not likely decrease cholera transmission among snow geese or other birds and may, in fact, speed up the spread of the disease to new sites.

The information cited in Friend (1999:88–91) deals specifically with *control* of avian cholera outbreaks once they have *already occurred.* We agree that the outbreak control methods recommended by Friend (1999) are valid once an outbreak has occurred. However, the point of discussion is that the reduction of light geese, beyond the immediate need to prevent further habitat destruction, may reduce the likelihood of cholera outbreaks occurring in the first place.

(63) The API commented that the Service has created a National Wildlife Refuge system that forces light geese to concentrate on areas not open to hunting, which exacerbates the spread of disease. If the Service's concern about cholera were not merely another scare tactic designed to ''demonize'' light geese, but was genuine, at the very least the Service should review its own policies that lead to denser concentrations of light geese and other waterfowl.

The mission of the Service's 100-year-old National Wildlife Refuge System goes far beyond management of light goose populations. Nevertheless, our proposed management alternative calls for some refuges to decrease the amount of sanctuary and food available to migrating and wintering light geese. Proposed management practices may also include altering or eliminating water areas that serve as roost sites. Therefore, we have reviewed our management policies that lead to denser concentrations of light geese.

(64) The API commented that the document exhibits a double standard of conservation concern by discussing the loss of a few nests of semi-palmated sandpipers or red-necked phalaropes from a large population, but a greater concern is not expressed for the potential of whooping cranes, which actually are endangered, to be shot.

Our discussion with regard to nest losses of sandpipers and phalaropes was used to illustrate the fact that light goose habitat destruction can affect other bird species utilizing the same area. With regard to whooping cranes, we addressed the potential impact of the light goose management program on cranes by describing how migration behavior of light geese and cranes differed in a way that would not favor illegal take. Furthermore, we described the Aransas-Wood Buffalo Population Whooping Crane Contingency Plan, which provides a specific mechanism for protecting cranes when they enter a situation where they face hazards such as hunting activities, contaminants, or disease situations. The discussion of protection of endangered cranes is totally unrelated to our discussion of the impacts of habitat degradation on other

species. We have not equated the status of sandpipers or phalaropes with that of whooping cranes, and, therefore, we do not believe that we have exhibited a double standard of conservation concern.

(65) The HSUS commented that, considering the relative lack of interest on the part of sportsmen in hunting snow geese, they question the lumping together of all goose hunting expenditures rather than separately examining light goose hunting in the socioeconomic analysis.

We disagree that there is a lack of interest in hunting snow geese. Prior to implementation of special light goose regulations, light goose harvest represented approximately 24% of the total annual goose harvest in the United States. Because light geese are generally considered more difficult to hunt due to their flocking behavior, we believe the fact that they comprise nearly one quarter of the goose harvest indicates there is no lack of interest in pursuing them. Furthermore, we have not lumped together all goose hunting expenditures in our economic analysis. In section 3.5.1 of the EIS we specifically addressed the economic impact of light goose hunting and estimated a total economic impact of approximately $146 million in the United States. We further divided this economic impact of light goose hunting by flyway, based on the percent distribution of harvest among flyways.

(66) The API commented that, while the document acknowledges the far greater nonconsumptive use and economic activity, versus consumptive use, of waterfowl, we disagree with the statement, ''Information on the percentage usage that can be attributed to duck or goose species is not available.'' Such information could have been obtained by ''monitoring birding e-mail lists (such as BirdChat or OntBirds)'' or by collecting information from snow goose festivals held in various locations in the United States and Canada.

Our statement regarding the lack of information on the percent of nonconsumptive usage of duck versus goose species relates directly to the National Survey of Fishing, Hunting and Wildlife-Associated Recreation conducted by the Service and the Bureau of Census, as well as the study conducted by Teisl and Southwick (1995). Neither source broke down economic activity into duck and goose components. These were, and still remain, the only available studies we are aware of that are conducted on a national scope that provide the socioeconomic data we needed to conduct our analysis for the United States. We have included recent results of an economic impact study conducted in Quebec that gave estimates of the economic benefits of birdwatching and goose festivals (see EIS section 3.5.2). Conducting a separate study of the economic impacts of snow goose festivals (if they exist) in the United States is beyond the scope and capability of the EIS, even if a comprehensive listing of such festivals was available.

(67) The HSUS commented that in the Service's proposed rule (FR 66, pp. 52077–52090) there is a discussion of how habitat damage in the Arctic will eventually trigger a density-dependent regulation of the population and cause a decline in the population to a level that is too low to permit any hunting, thus closing light goose hunting seasons. This passage comes from the subsection ''Environmental Consequences of Taking No Action'' despite the fact that the statement regarding hunting seasons is clearly a socioeconomic impact and not an environmental one. The Service also points out that maintaining populations at usable levels will benefit hunters and birdwatchers and will ensure the future of a $146 million industry associated with light goose hunting in the United States. This reveals something about the single-game-species management philosophy that the HSUS can only guess underlies the reasoning behind the management plan.

The EIS Chapter 3 dealing with the Affected Environment includes not only a discussion of light goose populations, other bird species, and habitat, but also the socioeconomic impacts of light goose hunting, nonconsumptive use of light geese, and subsistence uses of light geese. Thus, the ''affected environment'' is not strictly related to birds or habitat. Consequently, it was appropriate to discuss the economic impacts of a population crash in the section of the proposed rule labeled, ''Environmental Consequences of Taking No Action''. This is analogous to the analysis of socioeconomic impacts of the No Action alternative (EIS section 4.6.1) in Chapter 4—Environmental Consequences. We clearly state that prevention of a population crash will benefit both hunters and birdwatchers. We cited the potential loss of $146 million associated with light goose hunting only because a similar cost estimate is not available for losses associated with nonconsumptive uses in the United States. However, in section 4.6.1 we point out that such losses will be lower than those associated with consumptive uses because birdwatching and related activities can continue at lower goose population levels, whereas goose hunting may be closed completely at the same low population level. Given the available data, we believe our analysis of impacts was balanced, and does not represent a single-game-species management philosophy.

(68) The HSUS commented that evidence cited by the Arctic Goose Habitat Working Group indicates that density-dependent processes are already affecting goose reproduction and survival and should eventually result in a population decline. For example, reduced food availability has been linked with decreases in clutch size, gosling size, and adult body mass in lesser snow geese. These proximate physiological effects on individuals are reflected in population decreases. Instead of allowing normal density-dependent processes to regulate goose populations, the Service proposes to increase hunting mortality, which will likely have only a short-term effect on light goose populations.

We reviewed light goose responses to habitat degradation in section 3.1.9. The number of geese nesting at traditional colony sites at La Perouse Bay has declined; however, the number of geese in the overall population nesting at La Perouse Bay and surrounding Cape Churchill area has increased (Cooch *et al.* 2001). This is explained by the fact that older female snow geese tend to return to their natal colony areas, which have been degraded, and have lower reproductive output. Younger females have recently tended to nest outside the traditional areas at La Perouse Bay and may be using more distant brood-rearing sites (Rockwell *et al.* 1993, Cooch *et al.* 2001). Individuals that disperse to new areas experience higher reproductive success (Cooch *et al.* 2001), and thus ''cheat'' density-dependent regulation of the population (Abraham and Jefferies 1997). The ability of the light goose population to partially escape density-dependence means that habitat degradation will continue as the population increases. As stated in our previous response, we believe that population reduction may eventually occur. However, we believe that the amount of habitat destruction that will occur in the interim must be avoided.

(69) The HSUS commented that density-dependent effects on greater snow geese appear to have begun via decreases in gosling mass, size, and condition, apparently due to decreases in food availability during summer. It is clear that growth rates vary with annual variation in food availability, which may be affected in part by density-

independent factors such as variation in the onset of spring.

We reviewed the studies by Reed and Plante (1997) and Giroux *et al.* (1998) as they relate to variation in gosling growth rates. The study conducted by Reed and Plante (1997) indicated long-term declines in gosling mass, size, and condition. They attributed this decline to decreased food availability on the breeding grounds. However, declines in reproduction were not documented, likely due to agricultural subsidies on migration and wintering grounds, and the population continued to increase up until implementation of a conservation harvest in Quebec. Although the carrying capacity of breeding habitats such as Bylot Island has not been exceeded as of yet (Masse *et al.* 2001), the agricultural subsidy available to geese makes it possible that they will exceed the carrying capacity and cause habitat damage similar to that caused by lesser snow geese in the eastern and central Arctic. Density-independent effects on the population, such as timing of snowmelt in spring, will continue to impact goose populations, regardless of population size. Therefore, we do not believe that mention of these factors is germane to the overabundance issue.

(70) Both the HSUS and API commented that the Service has misrepresented the conclusions of Thomas and MacKay (1998) when it attributes to these authors the suggestion that ''isostatic uplift, not the feeding actions of geese, is responsible for habitat damage at breeding colony sites.''

The reference to Thomas and MacKay (1998) with regard to isostatic uplift and vegetation damage has been removed.

(71) The HSUS and API objected to our use of results from studies conducted by Gratto-Trevor (1994) and Rockwell *et al.* (1997b) to suggest that light geese are impacting other bird species. The commentors questioned the validity of the methodology used by Rockwell *et al.*, and used statements by Gratto-Trevor concerning the variety of factors that affect shorebird census to argue against using such studies. Furthermore, they argued that none of the species mentioned in these studies are threatened, endangered, or declining globally.

The fact that none of the species cited in the above studies are threatened, endangered, or declining locally is not germane to the issue of whether habitat degradation caused by light geese can impact other species. In our DEIS we specifically stated that results from these studies indicate local declines in areas damaged by light geese, and that the results were not presented to suggest continental declines of a particular species. Gratto-Trevor discussed several factors that affect shorebird censuses in the arctic, including breeding site fidelity. Buff-breasted sandpipers and Pectoral sandpipers were cited as species that do not exhibit site fidelity. However, Gratto-Trevor presented census results indicating declines in semi-palmated sandpipers and red-necked phalaropes, which were not included in her list of species that do not exhibit site fidelity. Therefore, we can only assume that these two species do indeed show site fidelity and that censuses repeated annually would be adequate to document declines. Gratto-Trevor stated that semi-palmated sandpipers and red-necked phalaropes in her study were individually recognizable (via unique color-band combinations) which, when combined with intensive nest searches, made it ''possible to obtain an accurate estimate of the local breeding populations.'' Environmental factors such as weather and food availability were cited as factors that appeared to be related to the decrease in semi-palmated sandpipers, but foraging by snow geese ''in the ever increasing local colony'' was also cited as potentially having an impact on habitat quality for shorebirds. We believe that habitat destruction by the ''ever increasing'' goose colony in the 16 years between censuses conducted in 1983 and 1999 undoubtedly played a major role in the decline of these shorebird species in the area.

The study by Rockwell *et al.* (1997b) was criticized by the commentor as being conducted on only one site and, therefore, the results may not be applicable to birds in other regions. Furthermore, the data were criticized as apparently not being collected by way of a systematic census, but ''almost as an afterthought during the course of other research.'' In the description of study methods, Rockwell *et al.* (1997b:2–3) indicated that analyses were restricted to a time period when there was always a large number of individual observers in the field each day and that individuals were assigned specific, relatively small, study areas in which they spent the day collecting data on snow geese, vegetation in the marsh, and bird species encountered. Furthermore, Rockwell stated that in some years *systematic data* were also collected for semi-palmated sandpipers and red-necked phalaropes (among other species); which happen to be the 2 species for which we presented data in section 3.3.2 of the EIS. Therefore, we believe Rockwell's study, as well as Gratto-Trevor's, are valid sources of information on the impacts of light geese on other species. In the Final EIS we have added results from the recent study by Sherfy and Kirkpatrick (2003) that indicated that snow geese may negatively influence the availability of invertebrates for other waterbirds in some managed wetland impoundments in the mid-Atlantic region.

(72) The API commented that the EIS discussion of greater snow geese traditionally staging during October almost exclusively on the St. Lawrence within a relatively small area of bulrush marshes before leaving appears to come only from anecdotal sources, which apparently are acceptable to the Service under certain circumstances. It is not clear from the text how a non-stop flight from Ungava in late August led to birds staging during October almost exclusively on the St. Lawrence. After four weeks of nonstop flying, they made it to the St. Lawrence. How slowly did they fly?

We cited Reed *et al.* (1998) as the source of the discussion of greater snow goose use of bulrush marshes on the St. Lawrence. The observations of goose habitat use come from aerial surveys conducted on the staging areas since the mid-1950s (Reed *et al.* 1998). Reed *et al.* also cite the studies conducted by Heyland (1972), Bourget 1974, and Gauvin and Reed (1987) in this discussion. Therefore, we believe that use of such information is more reliable than relying on anecdotal information. The comment with regard to our description of the migration from Ungava to the St. Lawrence apparently has been made as a result of misinterpretation of the document text. We did not state that the migration was completed by flying nonstop for 4 weeks. We stated that birds leave breeding areas in mid-August and then make an initial flight to the Ungava Peninsula. Geese stage there for several days before they undertake another long migration to the St. Lawrence. We made no mention of the length of time required for this second leg of migration. Mention of the month of October was not connected with the description of migration, and was made only with regard to changes in habitat use by geese that use the St. Lawrence staging area.

(73) The API commented that the Document speculates (top of page 56) that, ''although marshes that have experienced 'eat outs' may recover 'relatively quickly * * * areas that are grazed by geese year after year may be maintained as mudflats.' This is a non-sequitor, as a pure mudflat, devoid of plant biomass at or below ground level, obviously cannot be 'grazed by geese

year after year' or for even one year. Geese don't graze on mud in the absence of vegetation, and such mud would not sustain geese. If the mudflat is not devoid of vegetation above, at, or below surface level then obviously there is reason to believe that it is a viable zone for feeding by mudflat-dependent species such as the Red Knot.'' As the Red Knot is in decline it would be helpful to know if it, or any of many other shorebird species, would benefit from maintenance of mudflats along the U.S. Atlantic coast. The API stated, ''that is the kind of 'assessment' we were hoping for and believe the American people deserve.''

We do not believe that reference to recovery of eat-outs and maintenance of mudflats on mid-Atlantic marshes was speculation on our part. In the DEIS discussion (page 56) we were citing results of studies by Giroux *et al.* (1998), Widjeskog (1977), Smith and Odum (1981), and Young (1985). The comment fails to mention our citation of these studies. Young (1985) used the term ''graze'' in describing all modes of feeding by snow geese. For example, Young stated that geese have been reported to ''graze'' to a soil depth of approximately 25 cm. Mudflat conditions appear after an eat-out, but that does not mean that all belowground plant biomass has been removed by geese. Therefore, a mudflat condition does not require, as the commentor states, complete removal of vegetation below surface level. Marsh vegetation can re-establish if belowground biomass is available (Smith and Odum 1981); and, therefore, geese can graze in a marsh year after year even if mudflat conditions appear during a portion of the year. However, if geese continue to remove belowground biomass year after year from a particular marsh, there may be insufficient ''reserve biomass'' available to provide for re-growth (Smith and Odum 1981). A comprehensive review of the importance of mudflat maintenance to shorebirds along the U.S. Atlantic coast is beyond the scope of this document.

(74) The HSUS commented that populations of lesser snow geese and Ross' geese in the western Arctic are given short shrift in the DEIS, probably because of the lack of evidence of ''damage'' to vegetation on the breeding grounds in that region. In addition, the Service expresses concern over the dangerously low reproductive output and small population of Wrangel Island lesser snow geese. Wrangel Island birds migrate and winter in areas that overlap with those from birds of the western and central Arctic. However, the concern for Wrangel Island birds does not stop the Service from including the option of implementing special regulations in the Pacific Flyway if damage to western Arctic habitats becomes evident. If the known impacts of western Arctic light geese on breeding grounds is accurate, then there is no scientific basis for including the Pacific Flyway in the preferred alternative. A separate EIS for the Pacific Flyway should be conducted prior to any actions being taken there.

In response to this comment, we have included additional information on the status of western Arctic light geese in the Final EIS. Because this EIS is a comprehensive treatment of light goose management, we do not believe it would be appropriate to omit the Pacific Flyway from our analysis. We clearly state in the preferred alternative that the Pacific Flyway will be eligible to implement special light goose regulations only if damage to breeding habitats in the western Arctic becomes evident. At this time, we are not recommending that the Pacific Flyway should implement such regulations. However, we point out that the number of light geese in the western Arctic is increasing, and biologists have already broached the subject of the need to monitor the situation and possibly take actions to stabilize the number of birds in the western Arctic before they escape control via normal harvest and become overabundant (Hines *et al.* 1999, Canadian Wildlife Service Waterfowl Committee 2000). In the analysis of our preferred alternative we clearly stipulate that any regulations implemented in the Pacific Flyway to reduce western Arctic birds should be designed to avoid increased harvest of Wrangel Islands birds. Inclusion of the Pacific Flyway in the current EIS does not preclude us from conducting additional NEPA analyses in the future, if we decide to implement regulations in the Pacific Flyway.

(75) The API commented that there appears to be a self-perpetuating juggernaut driving a fear of ''light'' goose population size. API stated that they met a student who was working hard to prove how much ''damage'' was being done by Ross's geese, because that is what her professor wanted, and not simply allowing her research to lead her where it would, without a political goal in sight. API is concerned about ''behind-the-back pressures taken against informed individuals who have dared to question the Service's position on 'light' geese.'' API gave an account of their discussion with an ornithologist who has spent many summers in the arctic and is convinced there is no light goose problem, but has asked not to be quoted by name because much of his funding comes from Ducks Unlimited. API reported that they have been told off the record by ''some CWS biologists that essentially the need to lethally cull light geese is driven by DU's agenda,'' and that there is little to distinguish DU's need to encourage waterfowl hunting, its connections to hunting to support industry, and its need to be seen as an active participant in ''conservation''—from the supportive agenda of many waterfowl management staff of the Service.

Mention of unsubstantiated hearsay of real, imagined, or implied pressure to suppress views of scientists, biologists, ornithologists, or anyone else that does not support the Service's management philosophy is unfortunate. Our light goose management program is driven by our responsibility to conserve light geese, light goose habitat, and habitats important to other wildlife species. Dedicated Service staff work in the public's trust to conserve a valuable wildlife resource.

(76) The Pennsylvania Farm Bureau commented that increasing numbers of their membership are reporting damage to crops and property by snow geese. The Bureau supports proactive steps to reduce population levels of snow geese and associated agricultural damage. They further support a depredation program for snow geese on farms suffering damage from geese.

We believe that a reduction of the greater snow goose population will help to alleviate damage to agricultural crops in Pennsylvania and other Atlantic Flyway States. We issue depredation orders to permit the killing of migratory game birds that ''* * * have accumulated in such numbers in a particular area as to cause or about to cause serious damage to agricultural, horticultural, and fish cultural interests * * *'' (50 CFR 21.42). Light goose damage to natural marsh and tundra habitats is not covered by depredation order regulations. However, light geese also cause damage to crops such as hay and cereal grains. In such cases, farmers would be eligible to apply for a depredation permit (50 CFR 21.41).

(77) The National Rifle Association (NRA) supported changes in regulations that would increase the harvest of light geese. With regard to changes in refuge habitat management, they suggested that natural food habitats may be severely impacted if agricultural crops are removed from refuges. They urged retention of some agricultural areas in certain situations to serve as buffers for natural habitats against light goose foraging.

Each refuge will make changes to their agricultural crop programs that are

compatible with their biological program.

(78) The Policy Council of the American Bird Conservancy, Wildlife Management Institute, Ducks Unlimited, Inc., U.S. Sportsmen's Alliance, New Jersey Waterfowl Association, and the United Kennel Club supported Alternative B for reducing light goose populations. Several of these groups also urged close monitoring of the goose populations and habitat to determine when the threat to habitats has ended and control activities were no longer needed.

Thank you for your comment.

Changes From the Proposed Rule

Several comments we received on the Draft EIS addressed the issue of the timetable when certain management actions would occur. In our responses contained in the FEIS, we stressed that timetables with regard to habitat restoration are difficult to quantify due to the prolonged recovery period we expect to occur, which may take decades or more. However, it became evident that the proposed rule was not explicit with regard to the population levels at which management actions would be taken. Accordingly, in the final rule we have added language to § 21.60 that specifies:

- The population levels at which management actions will occur in each flyway (paragraph (d)),
- The mechanism by which we will announce such actions (paragraph (e)), and
- The mechanism by which we will terminate population control activities (paragraph (h)).

The proposed rule outlined the conditions under which the conservation order would be suspended, and we have retained that language in the final rule (§ 21.60(i)).

In the proposed rule we restricted the scope of initial implementation of new light goose regulations to the Atlantic, Mississippi, and Central Flyways. However, we also indicated that the Pacific Flyway would be eligible to implement special light goose regulations in the future if controlling light goose populations that migrate to that flyway becomes necessary. By creating new paragraph (d) in § 21.60 as discussed above, it became necessary for us to further amend § 21.60 to include:

- A description of the Pacific Flyway States (paragraph (c)(3)), and
- The conditions under which the Pacific Flyway would be eligible for future implementation (paragraph (d)(3)).

Special Light Goose Regulations

This rule makes permanent regulations that are very similar to those in effect by reason of the Arctic Tundra Habitat Emergency Conservation Act. The differences are that we now would include the Atlantic Flyway States as being eligible to implement special light goose regulations to manage the population of greater snow geese. In addition, Pacific Flyway States will be eligible in the future if habitat damage becomes evident on goose breeding areas in the western Arctic. We also have provided further guidance to States as to what type of information should be collected and reported with regard to harvest resulting from implementation of the conservation order. Such information will further refine our ability to evaluate the impacts of such regulations on light goose populations. Finally, we have revised terminology with regard to baiting that incorporates changes we made to baiting regulations on June 3, 1999 (64 FR 29799).

These regulations address two areas. The first authorizes the use of new hunting methods (*i.e.*, electronic calls and unplugged shotguns) to harvest light geese during normal hunting season frameworks. New methods of take are allowed during a light-goose-only hunting season when all other waterfowl and crane hunting seasons, excluding falconry, are closed. Authorization of new methods of take during light-goose-only seasons are allowed only during normal hunting season framework dates (September 1 to March 10), except as provided in 50 CFR part 21 described below. Individual States are authorized to determine the exact dates. Persons utilizing new methods of take during light goose hunting seasons are required to possess a Federal migratory bird hunting stamp, to be registered under the Harvest Information Program, and to be in compliance with any additional State license and stamp requirements pertaining to hunting waterfowl.

The second revises subpart E of 50 CFR part 21 for the management of overabundant light goose populations. Under this subpart, we establish a conservation order specifically for the control and management of light geese. Under the authority of this rule, States could initiate aggressive harvest management strategies with the intent to increase light goose harvest without having to obtain an individual permit, which will significantly reduce the administrative burden on State and Federal governments. This rule enables States, as a management tool, to use hunters to harvest light geese, by shooting in a hunting manner, inside or outside of the regular migratory bird hunting season framework dates of September 1 and March 10. Although a conservation order could be implemented at any time, we believe the greatest value of this rule is the provision of a mechanism to increase harvest of light geese beyond March 10, the latest possible closing date for traditional migratory bird hunting seasons. This provision would be especially effective in increasing harvest in mid-latitude and northern States during spring migration. The conservation order is not a hunting season, and implementation of such regulations should not be construed as opening, re-opening, or extending any open hunting season contrary to any regulations promulgated under Section 3 of the Migratory Bird Treaty Act.

Conditions under the conservation order require that participating States inform participants acting under the authority of the conservation order of the conditions that apply to the amendment. In order to minimize or avoid take of nontarget species, States may implement this action only when all waterfowl (including light goose) and crane hunting seasons, excluding falconry, are closed. In addition to authorizing new methods of take (*i.e.*, electronic calls and unplugged shotguns), the conservation order does not impose daily bag limits for light geese and allows shooting hours for light geese to end one-half hour after sunset. Because it is not a hunting season, conservation order participants are not required by Federal law to possess a valid migratory bird hunting stamp or required to be registered in the Harvest Information Program, unless otherwise required by an individual State. States may impose additional requirements on participants.

We will annually monitor the status of light goose populations in North America. We will publish a notice in the **Federal Register** whenever States in a particular Flyway are eligible to implement special light goose regulations for the purposes of population reduction. Similarly, we will publish a notice in the **Federal Register** to suspend such regulations in a particular Flyway when population goals are met for light goose populations that utilize the Flyway. However, in the event that any light goose population resumes population growth above management goals, it may become necessary to re-implement additional methods of take (Part 20) and/or the conservation order (Part 21) in an attempt to return the population to the desired level.

Notice

Upon the effective date of this final rule, we hereby provide notice per 50 CFR 21.60(e) that the Atlantic, Mississippi, and Central Flyways are eligible to implement the special light goose regulations contained in Parts 20 and 21. A separate Notice relating to the authorization of regulations for managing harvest of light goose populations is published elsewhere in this issue of the **Federal Register**.

NEPA Considerations

In compliance with the requirements of section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(C)), and the Council on Environmental Quality's regulation for implementing NEPA (40 CFR 1500–1508), we published the availability of a DEIS on October 5, 2001 (66 FR 51274). This followed a September 28, 2001, Environmental Protection Agency notice of availability of our DEIS (66 FR 49668). In addition, on October 12, 2001 (66 FR 52077), we published a proposed rule to establish regulations to implement the DEIS proposed action, Alternative B. On July 13, 2007 (72 FR 38577) and July 18, 2007 (72 FR 39439), notices of availability of our FEIS were published, followed by a 30-day public review period. The Environmental Protection Agency (EPA) reviewed the Final EIS (FEIS) and stated that they did not identify any environmental concerns with our preferred alternative, and that the document provided adequate documentation of the potential environmental impacts. The EPA assigned a rating of Lack of Objection to the FEIS. The FEIS is available to the public at the location indicated under the **ADDRESSES** caption.

Endangered Species Act Consideration

Section 7(a)(2) of the Endangered Species Act (ESA), as amended (16 U.S.C. 1531–1543; 87 Stat. 884) provides that ''Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out * * * is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat * * *.'' We completed Section 7 consultation under the ESA for this rule. The result of our consultation under Section 7 of the ESA is available to the public at the location indicated under the **ADDRESSES** caption.

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996) (5 U.S.C. 601, *et seq.*), whenever a Federal agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies that the rule would not have a significant economic impact on a substantial number of small entities. Thus, for a regulatory flexibility analysis to be required, impacts must exceed a threshold for ''significant impact'' and a threshold for a ''substantial number of small entities.'' See 5 U.S.C. 605(b). SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule would not have a significant economic impact on a substantial number of small entities.

Many small businesses within the retail trade industry (such as hotels, gas stations, sporting good stores, *etc.*) may benefit from this rule. The economic impacts of this rulemaking will fall primarily on small businesses because of the structure of the industries related to waterfowl hunting. The rule benefits small businesses by avoiding failure of an ecosystem that produces migratory bird resources important to American citizens.

Closure of light goose hunting in a particular flyway would influence trip-related expenses rather than equipment purchases that could be used to hunt other waterfowl species. Thus, this analysis focuses on trip-related expenditures associated with light goose hunting. Hunting seasons for all goose species resulted in trip-related expenditures of $207.4 million in 2006 (U.S. Department of the Interior 2007). Light geese represent approximately 24% of all geese taken in the United States, thus accounting for an annual economic impact of $49.8 million.

By having ripple effects throughout the economy, these direct expenditures are only part of the impact of goose hunting. Using a national impact multiplier for waterfowl hunting (2.49) derived from the report ''Economic Impact of Waterfowl Hunting in the United States'' yields a total economic impact of approximately $123.9 million (2006 dollars) (U.S. Department of the Interior 2005). (Using a local impact multiplier would yield more accurate and smaller results. However, we employed the national impact multiplier due to the difficulty in developing local multipliers for each specific region.) The distribution of light goose harvest among flyways is as follows: Atlantic Flyway 5%; Mississippi Flyway 35%; Central Flyway 50%; Pacific Flyway 10%. Allocating the economic impact of light goose hunting in expenditures in each Flyway by these proportions, the economic impact of light goose hunting is $6.2 million in the Atlantic Flyway, $43.7 million in the Mississippi Flyway, $61.6 million in the Central Flyway, and $12.4 million in the Pacific Flyway.

The rule is expected to preserve this economic impact and generate additional output by providing opportunity to increase take of light geese beyond March 10 in the three easternmost flyways. Data are not available to estimate the number of small entities affected, but it is unlikely to be a substantial number on a national scale. In 1999, we estimated that implementation of new light goose regulations would avert a population crash, thus avoiding the closure of normal light goose hunting seasons due to low populations in the Central and Mississippi Flyways, and avoiding a $105.3 million loss in economic output associated with such seasons. Implementation of light goose regulations would also help reduce agricultural losses caused by geese. Our intent is to implement special regulations to increase harvest of light geese and reduce populations to levels that habitats can support and also to reduce agricultural damages.

We expect that the incremental increases in economic impact will be scattered, and so we do not expect that the rule will have a significant economic effect (benefit) on a substantial number of small entities. It is unlikely that a substantial number of small entities will have more than a small benefit from the increased spending due to a longer light goose hunting season. Therefore, we certify that this rule will not have a significant economic impact on a substantial number of small entities as defined under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Thus, we have determined that a Regulatory Flexibility Act analysis is not required.

Executive Order 12866

The Office of Management and Budget has determined that this rule is not significant and has reviewed this rule under Executive Order 12866. OMB bases its determination upon the following four criteria:

(a) Whether the rule will have an annual effect of $100 million or more on

the economy or adversely affect an economic sector, productivity, jobs, the environment, or other units of the government.

(b) Whether the rule will create inconsistencies with other Federal agencies' actions.

(c) Whether the rule will materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients.

(d) Whether the rule raises novel legal or policy issues.

Small Business Regulatory Enforcement Fairness Act

This rule is not a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act. It will not have an annual effect on the economy of $100 million or more; nor will it cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions. It will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

Paperwork Reduction Act

This final rule contains information collections for which OMB approval is required under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). We may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. OMB has approved the information collection requirements associated with this rule and assigned OMB Control Number 1018–0103.

We expect a maximum of 39 states to participate under the authority of the conservation order each year it is available. States and tribes must keep records of activities carried out under the authority of the conservation order. This includes the number of mid-continent light geese taken under the regulation, the methods by which they are taken (*e.g.*, unplugged shotgun, electronic call), and the dates they were taken. We believe that this recordkeeping requirement is necessary to ensure that those individuals carrying out control activities are authorized to do so. The States must submit an annual report summarizing the activities conducted under the conservation order. Reported information helps us to assess the effectiveness of light geese population control methods and strategies and assess whether or not additional population control methods are needed.

We estimate the annual burden associated with this information collection to be 74 hours. This estimate includes time for reviewing instructions, gathering and maintaining data, and completing and reviewing the reports.

Activity	Number of respondents	Number of responses	Completion time per response	Total annual burden hours
Designation of Participants—50 CFR 21.60f(6)	39	39	7.4	288.6
Inform Participants of Requirements—50 CFR 21.60f(7)	39	39	7.4	288.6
Recordkeeping—50 CFR 21.60f(8)	39	39	44.4	1,731.6
Reporting—50 CFR 21.60f(9)	39	39	14.8	577.2
Total	39	39	74.0	2,886.0

During the proposed rule stage, we solicited comments for a period of 60 days. While we did not receive any comments specifically addressing the information collection requirements, we did receive several comments pertaining to other aspects of the rule, which we summarize and discuss in this preamble. We did not make any changes to our burden estimates as a result of these comments.

At any time, interested members of the public and affected agencies may comment on the information collection requirements contained in this rule. Please send such comments to Hope Grey, Information Collection Clearance Officer, Fish and Wildlife Service, MS 222–ARLSQ, 4401 North Fairfax Drive, Arlington, VA 22203 (mail); (703) 358–2269 (fax); or *hope_grey@fws.gov* (e-mail).

We particularly invite your comments on: (1) Whether or not the collection of information is necessary for the proper performance of the functions of the Service, including whether or not the information will have practical utility; (2) the accuracy of our estimate of the burden for this collection; (3) ways to enhance the quality, utility, and clarity of the information to be collected; and (4) ways to minimize the burden of the collection of information on applicants.

Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 requires agencies to assess the effects of Federal regulatory actions on State, local, and tribal governments and the private sector. The purpose of the act is to strengthen the partnership between the Federal Government and State, local, and tribal governments and to end the imposition, in the absence of full consideration by Congress, of Federal mandates on these governments without adequate Federal funding, in a manner that may displace other essential governmental priorities. We have determined, in compliance with the requirements of the Unfunded Mandates Reform Act, 2 U.S.C. 1502 *et seq.*, that this action will not ''significantly or uniquely'' affect small governments, and will not produce a Federal mandate of $100 million or more in any given year on local or State government or private entities. Therefore, this action is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act.

Civil Justice Reform-Executive Order 12988

In promulgating this rule, we have determined that these regulations meet the applicable standards provided in Sections 3(a) and 3(b)(2) of Executive Order 12988. Specifically, this rule has been reviewed to eliminate errors and ambiguity, has been written to minimize litigation, provides a clear legal standard for affected conduct, and specifies in clear language the effect on existing Federal law or regulation. We do not anticipate that this rule will require any additional involvement of the justice system beyond enforcement of provisions of the Migratory Bird Treaty Act of 1918 that have already been implemented through previous rulemakings.

Takings Implication Assessment

In accordance with Executive Order 12630, this action, authorized by the Migratory Bird Treaty Act, does not have significant takings implications and does not affect any constitutionally protected property rights. This action will not result in the physical occupancy of property, the physical

invasion of property, or the regulatory taking of any property. In fact, the rule would allow hunters to exercise privileges that would be otherwise unavailable; and, therefore, reduces restrictions on the use of private and public property.

Federalism Effects

Due to the migratory nature of certain species of birds, the Federal Government has been given statutory responsibility over these species by the Migratory Bird Treaty Act. These rules do not have a substantial direct effect on fiscal capacity, change the roles or responsibilities of Federal or State governments, or intrude on State policy or administration. Therefore, in accordance with Executive Order 13132, these regulations do not have significant federalism effects and do not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), E.O. 13175, and 512 DM 2, we have determined that this rule has no effects on Federally-recognized Indian tribes. Specifically, we sent Tribes copies of our May 13, 1999, Notice of Intent (64 FR 26268) that outlined the proposed action in the Draft Environmental Impact Statement on Light Goose Management. In addition, we sent Tribes our August 30, 1999, Notice of Meetings (64 FR 47332), which provided the public additional opportunity to comment on the DEIS process. Finally, Tribes were sent copies of our DEIS for their review and input.

Energy Effects—E.O. 13211

On May 18, 2001, the President issued E.O. 13211 on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule is not a significant regulatory action under E.O. 12866 and is not expected to adversely affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

Record of Decision

The Record of Decision for management of light geese, prepared pursuant to National Environmental Policy Act (NEPA) regulations at 40 CFR 1505.2, is herein published in its entirety.

This Record of Decision (ROD) has been developed by the U.S. Fish and Wildlife Service (Service) in compliance with the agency decision-making requirements of NEPA. The purpose of this ROD is to document the Service's decision for the selection of an alternative for strategies to reduce certain populations of light geese that have become overabundant and are being injurious to various breeding, migration, and wintering habitats. Alternatives have been fully described and evaluated in the June 2007 Final Environmental Impact Statement (FEIS) on light goose management.

This ROD is intended to: (a) State the Service's decision, present the rationale for its selection, and describe its implementation; (b) identify the alternatives considered in reaching the decision; and (c) state whether all means to avoid or minimize environmental harm from implementation of the selected alternative have been adopted (40 CFR 1505.2).

Project Description

Various light goose populations in North America have experienced rapid population growth, and have reached levels such that they are damaging habitats on their Arctic and subarctic breeding areas (Abraham and Jefferies 1997, Alisauskas 1998, Jano *et al.* 1998, Didiuk *et al.* 2001). Habitat degradation in arctic and subarctic areas may be irreversible, and has negatively impacted light goose populations and other bird populations dependent on such habitats (Gratto-Trevor 1994, Rockwell 1999, Rockwell *et al.* 1997). Natural marsh habitats on some migration and wintering areas have been impacted by light geese (Giroux and Bedard 1987, Giroux *et al.* 1998, Widjeskog 1977, Smith and Odum 1981, Young 1985). In addition, goose damage to agricultural crops has become a problem (Bedard and Lapointe 1991, Filion *et al.* 1998, Giroux *et al.* 1998, Delaware Div. of Fish and Wildlife 2000).

There is increasing evidence that lesser snow and Ross's geese act as prominent reservoirs for the bacterium that causes avian cholera (Friend 1999, Samuel *et al.* 1997, Samuel *et al.* 1999a). Over 100 species of waterbirds and raptors are susceptible to avian cholera (Botzler 1991). The threat of avian cholera to endangered and threatened bird species is continually increasing because of increasing numbers of outbreaks and the expanding geographic distribution of the disease (Friend 1999). This threat likely will increase as light goose populations expand (Samuel *et al.* 2001).

The Arctic Goose Habitat Working Group recommended that light goose numbers in the mid-continent region should be reduced by 50% (Arctic Goose Habitat Working Group 1997). The Working Group outlined a strategy that advocated monitoring the number of mid-continent light geese to see that appropriate population reductions are achieved, and to simultaneously monitor habitats in the Arctic coastal ecosystem. They further recommended that when the population size reached a level that is causing no further habitat damage, the management program should be changed to stabilize light goose numbers at that threshold (Rockwell *et al.* 1997:96). In 1998, the Arctic Goose Habitat Working Group recommended a short-term management goal of stabilizing the greater snow goose population at between 800,000 to 1 million birds (Giroux *et al.* 1998). However, a reduction of the population below that level was recommended if natural habitats continue to deteriorate, or if measures taken to reduce crop depredation do not achieve desired results (Giroux *et al.* 1998).

The Canadian Stakeholders Committee in Quebec adopted a population goal of 500,000 birds to address continued habitat degradation and agricultural depredations in the St. Lawrence Valley (Arctic Goose Joint Venture Technical Committee 2001). The population goal of 500,000 birds is in agreement with both the Atlantic Flyway Council goal and North American Waterfowl Management Plan goal for greater snow geese (U.S. Dept. of the Interior *et al.* 1998).

Although the number of light geese breeding in the western Arctic is increasing, the Arctic Goose Habitat Working Group has not identified an immediate management concern for habitat in that region. The number of lesser snow geese in the western Arctic is expected to grow from the current level of approximately 579,000 birds to 1 million by the year 2010. Some researchers have suggested a proactive approach to management of western Arctic lesser snow geese by stabilizing the population at its current level before it escapes control via normal harvest (Hines *et al.* 1999).

Key Issues

Public involvement occurred throughout the EIS and rulemaking process. From 1999 to 2001, we held 17 public meetings over the course of more than 8 months of total public comment. Through public scoping (the first stage

of public comment) and agency discussions, key issues emerged. In the EIS environmental analysis, we analyzed alternatives with regard to their potential impacts on light geese, other wildlife species, natural resources, special status species, socioeconomics, historical resources, and cultural resources. We also considered the alternatives in terms of their ability to fulfill the purpose and objective of the proposed action: to reduce, manage, and control certain light goose populations that have become seriously injurious to various breeding, migration, and wintering habitats in North America.

Alternatives

Since the FEIS is a programmatic document, the alternatives reflect general management strategies to reduce, manage, and control light goose populations. The EIS examined five alternatives:

Alternative A

Under the No Action alternative, light goose populations would be allowed to increase in size. This alternative would continue to manage light geese through existing wildlife management policies and practices, with the exception of temporary light goose regulations implemented under the Arctic Tundra Habitat Emergency Conservation Act. Traditional harvest of light geese will continue during the regular season and will be managed using existing administrative procedures. Light goose hunting regulations adopted by States will be confined to Federal frameworks that provide for a maximum season length of 107 days, occurring during the period September 1 to March 10 as prescribed by the Treaty (U.S. Fish and Wildlife Service 1988). Existing hunt programs and existing administrative procedures for establishing new hunt programs on national wildlife refuges administered by the Service will remain in place. Habitat management programs on refuges would continue as normal with regard to the purposes for which each refuge was established.

Alternative B

This alternative would modify title 50 Code of Federal Regulations (CFR) part 20 to allow the use of additional hunting methods to hunt light geese within current migratory bird hunting-season frameworks. We would authorize the use of electronic calls and unplugged shotguns to harvest light geese during normal light-goose hunting seasons when all other waterfowl and crane hunting seasons, excluding falconry, are closed.

This alternative would also create a new subpart to 50 CFR part 21 specifically for the management of overabundant light goose populations. Under this new subpart, we would establish a conservation order under the authority of the Migratory Bird Treaty Act with the intent to reduce and stabilize light goose population levels. The conservation order would authorize each State/Tribe in eligible areas to initiate aggressive light goose harvest strategies, within the conditions that we provide, with the intent to reduce the populations. The order will enable States/Tribes to use hunters to harvest light geese, by way of shooting in a hunting manner, during a period when all waterfowl (including light geese) and crane hunting seasons, excluding falconry, are closed, inside or outside the migratory bird hunting season frameworks. The order would also authorize the use of electronic calls and unplugged shotguns, eliminate daily bag limits on light geese, and allow shooting hours to continue until one-half hour after sunset.

The Service will annually monitor and assess the overall impact and effectiveness of the conservation order to ensure compatibility with long-term conservation of this resource. Reduction of light goose populations to management goals will result in numeric levels that still provide abundant opportunities for nonconsumptive uses of the resource (*e.g.*, wildlife viewing). If at any time evidence is presented that clearly demonstrates that there no longer exists a serious threat of injury to the area or areas involved for a particular light goose population, we will initiate action to suspend the conservation order, and/or regular-season regulation changes, for that population. Suspension of regulations for a particular population would be made following a public review process.

Finally, this alternative would alter management practices on some Service national wildlife refuges to decrease the amount of sanctuary and food available to migrating and wintering light geese. The most likely action that a refuge would implement is creating new areas open to light goose hunting, or enlarging areas that currently are open. While some refuges may be opened for migratory bird hunting without area limitation, the National Wildlife Refuge System Administration Act of 1966 stipulates that only 40% of certain refuges may be opened to migratory bird hunting. The Fish and Wildlife Improvement Act of 1978 (Pub. L. 95–616) amended the 1966 Act to permit the opening of greater than 40% of certain refuges to hunting when it is determined to be beneficial to the species hunted. Following Executive Order 12996 issued on March 25, 1996, Congress enacted the National Wildlife Refuge System Improvement Act of 1997, amending the National Wildlife Refuge System Administration Act of 1966 to establish that compatible wildlife-dependent recreational uses involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation are the priority public uses of the Refuge System. In order to establish a refuge hunt program, a determination must be made that the program is compatible with the major purposes for which the refuge was established (U.S. Fish and Wildlife Service 1986). Establishment of a hunt program includes preparation of the plan itself, an environmental assessment, consultation in accordance with section 7 of the Endangered Species Act, and proposed and final rules in the **Federal Register** (U.S. Fish and Wildlife Service 1986). Each year, we make new proposals for amendments to refuge-specific hunting regulations available for public review and comment in the **Federal Register**.

Due to the dynamic nature of annual migration and wintering patterns of light geese, as well as changing habitat conditions, we cannot provide a definitive listing of annual management actions that some refuges may implement. Changes to refuge management may also include alteration of habitat programs to reduce food availability for, and make habitats less attractive to, light geese. For example, many refuges have been undertaking reforestation programs. While such programs were not initiated in response to the light goose issue, they will have the added effect of reducing food available to light geese. Some refuges that harbor significant numbers of light geese may choose to alter impoundment water levels in order to create roosting areas and attract birds near hunted sites, or eliminate roosting areas to encourage birds to move to areas where hunting does occur. Reduction of areas planted to agricultural crops on some refuges will also decrease food available to light geese. Modification of prescribed burn programs may also be used to make certain areas on refuges more or less attractive to light geese depending on the size of the burn area. Any uses included with changes in management practices on a particular refuge will be permitted only after they have been determined to be compatible with the purposes for which the refuge was

established and due regard to potential impacts to special status (threatened or endangered) species has been made.

Alternative C

Under this alternative we would implement direct population control to achieve desired light goose population levels. We define direct control as the purposeful removal of large numbers of birds from a population using lethal means. Control efforts would be undertaken by wildlife agencies (Federal and/or State) on light goose migration and wintering areas in the United States. Under this alternative we would create a special light goose permit within 50 CFR part 21 specifically for the reduction of light goose populations. Regulations governing the issuance of permits to take, capture, kill, possess, and transport migratory birds are authorized by the Migratory Bird Treaty Act and are promulgated in 50 CFR parts 13 and 21. Federal courts have affirmed that all Federal agencies are subject to prohibitions in the Migratory Bird Treaty Act, including the restrictions on take of migratory birds. Executive Order 13186 states that all Federal agencies are subject to the provisions of the MBTA. Director's Order 131 clarifies Service policy regarding applicability of the MBTA to Federal agencies and the issuance of permits to agencies, including the Service. Any Federal personnel who undertake light goose management activities that will result in take of light geese must apply for and receive a permit from the appropriate Regional Office of the Service to do so. The permit would allow Federal and State agencies involved in migratory bird management, and/or their authorized designated agents, to initiate light goose population reduction actions within the conditions/restrictions of the program. Permits will be issued to the appropriate Regional Director of the Service that oversees the geographic area in question. The permit will delegate authority to Federal personnel and/or cooperating State wildlife agency personnel that will be involved in control activities.

Applications for the special light goose permit would require a statement from the agency that provides a general description of the action area, an estimate of the approximate number of light geese expected to be found in the action area and the approximate number of light geese that are to be taken. Permit holders would be required to properly dispose of or utilize light geese killed under the program. Light geese killed under this permit could be donated for scientific and educational purposes, or be donated to charities for human consumption. In the absence of such disposal options, geese may be buried or incinerated. Light geese, and their plumage, taken under these permits may not be sold, offered for sale, bartered, or shipped for purpose of sale or barter. Control activities would be undertaken such that they do not adversely affect other migratory bird populations or any species designated under the Endangered Species Act as threatened or endangered.

Agencies may use their own discretion for methods of take. Methods may include, but are not limited to, firearms, traps, chemicals or other control techniques that are consistent with accepted wildlife-damage management programs. The advantage of live-trapping is that nontarget species would be released unharmed. Chemical control would be achieved by treating corn or other food with chemicals (*e.g.*, DRC–1339, Avitrol, or alpha chloralose) and broadcasting the treated bait in areas where light geese are feeding. Currently, these chemicals are not registered for use on light geese. Under this alternative, agencies would apply to the Environmental Protection Agency for use of these chemicals on light geese under a Section 18 Specific Exemption, or a Section 24C registration, under the Federal Insecticide, Fungicide, and Rodenticide Act. All chemical control efforts would take place only in areas used by large flocks of light geese. This approach will increase efficiency of the control effort and minimize the take of nontarget species, which tend to avoid sites used by large flocks of light geese (J. Cummings, U.S. Dept. Agriculture, personal communication).

Due to the dynamic nature of annual migration and wintering patterns of light geese, we cannot provide a definitive listing of sites where geese would be taken. However, examination of recent patterns in snow and Ross's goose harvest by county provides a general overview of where goose concentrations, and thus control efforts, would likely occur in the future (U.S. Fish and Wildlife Service 2007). By necessity, control efforts will have to be opportunistic with regard to daily and seasonal movements of geese. Sites likely would include agricultural fields and roosting areas near wetlands, preferably on Federal or State wildlife areas where access would not be an issue. Control activities would be undertaken such that they do not adversely affect other migratory bird populations or any species designated under the Endangered Species Act as threatened or endangered.

Permit holders will be required to keep records of all activities performed under the permit and submit annual reports to the Service office that granted the permit. We will annually review such reports and assess the overall impact of this program to ensure compatibility with the long-term conservation of this resource. If at any time evidence is presented that clearly demonstrates that there no longer exists a serious threat of injury to the area or areas involved for a particular light goose population, we will initiate action to suspend the special permits for that population.

Alternative D

This alternative would achieve light goose population reduction through direct control on the breeding grounds in Canada. We do not have the authority to unilaterally implement direct population control measures in Canada. However, we have discussed the issue of direct population control with the Canadian Wildlife Service during meetings of the Arctic Goose Joint Venture. The Joint Venture has formed a working group to outline potential methods of direct control if such measures are ever deemed necessary. The working group report by Alisauskas and Malecki (2003) outlined costs of conducting direct control on the breeding grounds. This alternative may or may not involve U.S. wildlife agency participation, depending on the availability of funding and manpower in Canada. Regardless, the Canadian Government would be the lead authority under this alternative.

Methods of control would include shooting, trapping, or chemical control. Shooting of birds by sharpshooters would most likely be conducted during the nest incubation period when birds are attentive to nests, and their movements are limited. Personnel would be flown into nesting colonies and would conduct control efforts during the short nest incubation period. Sharpshooters would easily be able to identify bird species before shooting, and thus avoid take of nontarget bird species. Capture methods would be employed during the brood-rearing period when young birds have not yet attained flight stage and adult birds are undergoing feather molt. In most instances, capturing of birds would be accomplished by driving birds into capture pens with the aid of helicopters. Birds would be euthanized after being captured. Any nontarget bird species caught incidental to light goose trapping would be released. The agency costs of implementing this alternative depend on the distance of the specific breeding

colony to the nearest human settlement, the timing of when direct control would occur (nest incubation period or post-hatch), and the fate of birds that are killed (unretrieved or retrieved for processing).

Chemical control may also be employed during the flightless period when treated baits could be broadcast on sites used by large flocks of birds. Chemical types and methods of application would be similar to those outlined in Alternative C. The cost of conducting fieldwork in the Arctic under this alternative is much higher than control efforts in the United States. To reduce costs, leaving goose carcasses in the field would be an option for consideration. Although we would consider this a waste of the goose resource, the nutrients contained in goose carcasses would be returned to the environment. Alternatively, carcasses could be collected and air-lifted to the nearest available facility for processing.

Alternative E

This alternative would achieve light goose population control using an integrated, two-phased approach involving increased harvest resulting from new regulatory tools (*e.g.*, conservation order), changes in refuge management, and direct agency control. Phase one of this alternative is identical to Alternative B, whereas phase two includes elements of Alternatives C and D. In phase one, we would modify title 50 CFR part 20 to allow the use of additional hunting methods to hunt light geese within current migratory bird hunting-season frameworks. We would authorize the use of electronic calls and unplugged shotguns to harvest light geese during normal light-goose hunting seasons when all other waterfowl and crane hunting seasons, excluding falconry, are closed. In addition, we would create a new subpart to 50 CFR part 21 specifically for the management of overabundant light goose populations. Under this new subpart, we would establish a conservation order under the authority of the Migratory Bird Treaty Act with the intent to reduce and stabilize light goose population levels.

During phase one, we would also alter management practices on some Service national wildlife refuges to decrease the amount of sanctuary and food available to migrating and wintering light geese. The most likely action that a refuge would implement is creating new areas open to light goose hunting, or enlarging areas that currently are open. Changes to refuge management may also include alteration of habitat programs to reduce food availability for, and make habitats less attractive to, light geese.

Although annual monitoring of our program will be conducted, we envision that no more than 5 years would elapse in phase one before we evaluate the effectiveness of the light goose management program and assess the potential need for proceeding to phase two. Phase two of this alternative incorporates direct agency control of light goose populations as described previously in Alternatives C and D. Direct population control would be implemented for a particular population after we determined that reduction of the population cannot be achieved solely through implementation of regulations, such as a conservation order, and changes in refuge management. Management actions initiated during phase one would be continued in order to complement population reductions achieved in phase two.

Because we have no jurisdiction over management actions in Canada (Alternative D), we would begin phase two with the actions outlined in Alternative C. If additional population control actions are required to achieve management goals, we would approach the Canadian Wildlife Service and urge implementation of actions outlined in Alternative D. Initial direct control efforts would be undertaken by wildlife agencies (Federal and/or State) on light goose migration and wintering areas in the United States. Under this alternative we would create a special light goose permit within 50 CFR part 21 specifically for the reduction of light goose populations. Permits will be issued to the appropriate Regional Director of the Service who oversees the geographic area in question. The permit will delegate authority to personnel of the Service, other Federal personnel, and/or cooperating State wildlife agency personnel, to initiate light goose population reduction actions within the conditions/restrictions of the program. Control activities would be undertaken such that they do not adversely affect other migratory birds or any species designated under the Endangered Species Act as threatened or endangered. If at any time evidence is presented that clearly demonstrates that there no longer exists a serious threat of injury to the area or areas involved for a particular light goose population, we will initiate action to suspend the special permits for that population.

Agencies may use their own discretion for methods of take. Methods may include, but are not limited to, firearms, traps, chemicals, or other control techniques that are consistent with accepted wildlife-damage management programs. The advantage of live-trapping is that nontarget species would be released unharmed. Chemical control would be achieved by treating corn or other food with chemicals (*e.g.*, DRC–1339, Avitrol, or alpha chloralose) and broadcasting the treated bait in areas where light geese are feeding. Currently, these chemicals are not registered for use on light geese. Under this alternative, agencies would apply to the Environmental Protection Agency for use of these chemicals on light geese under a Section 18 Specific Exemption, or a Section 24C registration, under the Federal Insecticide, Fungicide, and Rodenticide Act. All chemical control efforts would take place only in areas used by large flocks of light geese. This will increase efficiency of the control effort and minimize the take of nontarget species, which tend to avoid sites used by large flocks of light geese (J. Cummings, U.S. Dept. Agriculture, personal communication).

If the combination of phases one and two of this alternative implemented in the United States is not successful in achieving desired population reduction goals, further management actions in Canada will be needed. These actions are identical to those outlined in Alternative D. Methods of control would include shooting, chemicals, or capturing. Shooting of birds by sharpshooters would most likely be conducted during the nest incubation period when birds are attentive to nests, and their movements are limited. Personnel would be flown into nesting colonies and would conduct control efforts during the short nest incubation period. Sharpshooters would easily be able to identify bird species before shooting, and thus avoid take of nontarget bird species. Capture methods would be employed during the birds' flightless period in summer when they are undergoing feather molt. Capturing of birds would be accomplished by driving birds into capture pens with the aid of helicopters or float planes. Birds would be euthanized after being captured. Any nontarget bird species caught incidental to light goose trapping would be released. The agency costs of implementing this alternative depend on the distance of the breeding colony to the nearest human settlement, the timing of when direct control would occur (nest incubation period or post-hatch), and the fate of birds that are killed. Chemical control may also be employed during the flightless period when treated baits could be broadcast on sites used by large flocks of molting birds. Chemical types and methods of

application would be similar to those outlined in Alternative C. Once the desired reduction of a particular light goose population is achieved, management actions can be curtailed. However, to prevent a rebound of the population, certain maintenance-level actions should remain in place. For example, retention of the use of additional hunting methods (electronic calls, unplugged shotguns) to hunt light geese within current migratory bird hunting-season frameworks would maintain harvest pressure. Temporary reinstatement of a conservation order may be needed in some years to achieve the level of harvest necessary to maintain a population at the desired level.

Decision

The Service's decision is to implement the preferred alternative, Alternative B, as it is presented in the final rule. This decision is based on a thorough review of the alternatives and their environmental consequences.

Rationale for Decision

As stated in the CEQ regulations, ''the agency's preferred alternative is the alternative which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors.'' The preferred alternative has been selected for implementation based on consideration of a number of environmental, regulatory, and social factors. Based on our analysis, the preferred alternative would be more effective than the current program; is environmentally sound, cost effective, and flexible enough to meet different management needs around the country; and does not threaten the long-term sustainability of light goose populations or populations of any other natural resource.

Alternative B (Modify harvest regulation options and refuge management) was selected because it is the most cost-efficient method of reducing light goose populations to levels that are more compatible with the ability of their habitat to support them. We did not select the No Action Alternative (Alternative A) because it is clear that continued growth of some light goose populations will foster additional habitat degradation and loss on various breeding, migration, and wintering areas. Furthermore, as light goose populations increase, the potential for outbreaks of avian cholera associated with light geese will also likely increase. Degradation and loss of habitat will not only affect light goose populations, but will also affect other bird populations that rely on the same habitats. Similarly, disease outbreaks associated with overabundant light goose populations has the potential to affect other bird species.

We did not select Alternatives C–E due to the prohibitive agency costs associated with direct population control. Furthermore, we believe the direct population control aspects of these alternatives have the potential to result in waste of the light goose resource.

List of Subjects in 50 CFR Parts 20 and 21

Exports, Hunting, Imports, Reporting and recordkeeping requirements, Transportation, Wildlife.

■ For the reasons stated in the preamble, we hereby amend parts 20 and 21, of subchapter B, chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 20—[AMENDED]

■ 1. The authority citation for part 20 continues to read as follows:

Authority: 16 U.S.C. 703–712; and 16 U.S.C. 742a–j.

■ 2. Revise paragraphs (b) and (g) of § 20.21 to read as follows:

§ 20.21 What hunting methods are illegal?

* * * * *

(b) With a shotgun of any description capable of holding more than three shells, unless it is plugged with a one-piece filler, incapable of removal without disassembling the gun, so its total capacity does not exceed three shells. This restriction does not apply during a light-goose-only season (greater and lesser snow geese and Ross's geese) when all other waterfowl and crane hunting seasons, excluding falconry, are closed.

* * * * *

(g) By the use or aid of recorded or electrically amplified bird calls or sounds, or recorded or electrically amplified imitations of bird calls or sounds. This restriction does not apply during a light-goose-only season (greater and lesser snow geese and Ross's geese) when all other waterfowl and crane hunting seasons, excluding falconry, are closed.

* * * * *

■ 3. Revise § 20.22 to read as follows:

§ 20.22 Closed seasons.

No person shall take migratory game birds during the closed season except as provided in part 21 of this chapter.

■ 4. Revise § 20.23 to read as follows:

§ 20.23 Shooting hours.

No person shall take migratory game birds except during the hours open to shooting as prescribed in subpart K of this part and subpart E of part 21 of this chapter.

PART 21—[AMENDED]

■ 5. The authority citation for part 21 continues to read as follows:

Authority: Public Law 95–616, 92 Stat. 3112 (16 U.S.C. 712(2)).

■ 6. Subpart E, consisting of § 21.60, is revised to read as follows:

Subpart E—Control of Overabundant Migratory Bird Populations

§ 21.60 Conservation order for light geese.

(a) *What is a conservation order?*

A conservation order is a special management action that is needed to control certain wildlife populations when traditional management programs are unsuccessful in preventing overabundance of the population. We are authorizing a conservation order under the authority of the Migratory Bird Treaty Act to reduce and stabilize various light goose populations. The conservation order allows new methods of taking light geese, allows shooting hours for light geese to end one-half hour after sunset, and imposes no daily bag limits for light geese inside or outside the migratory bird hunting season frameworks as described in this section.

(b) *Which waterfowl species are covered by the order?*

The conservation order addresses management of greater snow (*Chen caerulescens atlantica*), lesser snow (*C. c. caerulescens*), and Ross's (*C. rossii*) geese that breed, migrate, and winter in North America. The term light geese refers collectively to greater and lesser snow geese and Ross's geese.

(c) *Where can the conservation order be authorized?*

The Director can authorize the conservation order in these areas:

(1) The following States that are contained within the boundaries of the Atlantic Flyway: Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, West Virginia.

(2) The following States, or portions of States, that are contained within the boundaries of the Mississippi and Central Flyways: Alabama, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri,

Montana, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Wisconsin, and Wyoming.

(3) The following States, or portions of States, that are contained within the boundaries of the Pacific Flyway: Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

(4) Tribal lands within the geographic boundaries in paragraphs (c)(1), (2), and (3) of this section.

(d) *When will the Director authorize the conservation order in a particular Flyway?*

(1) The Director may authorize the conservation order for the reduction of greater snow geese for any State or Tribe contained within the Atlantic Flyway by publishing a notice under paragraph (e) of this section when the May Waterfowl Population Status report indicates that the management goal of 500,000 birds has been exceeded and that special conservation actions conducted in Canada are insufficient to reduce the population. Authorization of the conservation order in the U.S. portion of the Atlantic Flyway will occur after the Director determines the degree to which the management goal has been exceeded, the trajectory of population growth, anticipated harvest that would result from implementation of the conservation order, and whether or not similar conservation actions will be conducted in Canada.

(2) The Director may authorize the conservation order for the reduction of mid-continent light geese (lesser snow and Ross's geese) for any State or Tribe contained within the Mississippi and Central Flyways by publishing a notice under paragraph (e) of this section when the May Waterfowl Population Status report indicates that the management goal of 1,600,000 birds (winter index for Mid-continent Population and Western Central Flyway Population, combined) has been exceeded. Authorization of the conservation order in the U.S. portion of the Mississippi and Central Flyways will occur after the Director determines the degree to which the management goal has been exceeded, the trajectory of population growth, anticipated harvest that would result from implementation of the conservation order, and whether or not similar conservation actions will be conducted in Canada.

(3) The Director may authorize a conservation order for the reduction of light geese (lesser snow and Ross's geese) for any State or Tribe contained within the Pacific Flyway by publishing a notice under paragraph (e) of this section when the Director determines that light goose numbers in the western Arctic have exceeded the ability of their breeding habitat to support them.

(e) *How will the conservation order be authorized for a particular Flyway?*

The Director will publish a notice in the **Federal Register** when the conservation order is authorized in a particular Flyway.

(f) *What is required for State/Tribal governments to participate in the conservation order?*

When authorized by the Director, any State or Tribal government responsible for the management of wildlife and migratory birds may, without permit, kill or cause to be killed under its general supervision, light geese under the following conditions:

(1) Activities conducted under the conservation order may not affect endangered or threatened species as designated under the Endangered Species Act.

(2) Control activities must be conducted clearly as such and are intended to relieve pressures on migratory birds and habitat essential to migratory bird populations only and are not to be construed as opening, reopening, or extending any open hunting season contrary to any regulations promulgated under Section 3 of the Migratory Bird Treaty Act.

(3) Control activities may be conducted only when all waterfowl (including light goose) and crane hunting seasons, excluding falconry, are closed.

(4) Control measures employed through this section may be used only between the hours of one-half hour before sunrise to one-half hour after sunset.

(5) Nothing in the conservation order may limit or initiate management actions on Federal land without concurrence of the Federal agency with jurisdiction.

(6) States and Tribes must designate participants who must operate under the conditions of the conservation order.

(7) States and Tribes must inform participants of the requirements and conditions of the conservation order that apply.

(8) States and Tribes must keep annual records of activities carried out under the authority of the conservation order. Specifically, information must be collected on:

(i) The number of persons participating in the conservation order;

(ii) The number of days people participated in the conservation order;

(iii) The number of persons who pursued light geese with the aid of a shotgun capable of holding more than three shells;

(iv) The number of persons who pursued light geese with the aid of an electronic call;

(v) The number of persons who pursued light geese during the period one-half hour after sunset;

(vi) The total number of light geese shot and retrieved during the conservation order;

(vii) The number of light geese taken with the aid of an electronic call;

(viii) The number of light geese taken with the fourth, fifth, or sixth shotgun shell;

(ix) The number of light geese taken during the period one-half hour after sunset; and

(x) The number of light geese shot but not retrieved.

(9) The States and Tribes must submit an annual report summarizing activities conducted under the conservation order on or before September 15 of each year, to the Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Mail Stop MBSP–4107, Arlington, Virginia 22203. Information from Tribes may be incorporated in State reports.

(g) *What is required for persons to participate in the conservation order?*

Individual participants in State or Tribal programs covered by the conservation order must comply with the following provisions:

(1) Nothing in the conservation order authorizes the take of light geese contrary to any State or Tribal laws or regulations, and none of the privileges granted under the conservation order may be exercised unless persons acting under the authority of the conservation order possess whatever permit or other authorization(s) may be required for such activities by the State or Tribal government concerned.

(2) Persons who take light geese under the conservation order may not sell or offer for sale those birds or their plumage but may possess, transport, and otherwise properly use them.

(3) Persons acting under the authority of the conservation order must permit at all reasonable times, including during actual operations, any Federal or State game or deputy game agent, warden, protector, or other game law enforcement officer free and unrestricted access over the premises on which such operations have been or are being conducted and must promptly furnish whatever information an officer requires concerning the operation.

(4) Persons acting under the authority of the conservation order may take light geese by any method except those prohibited as follows:

(i) With a trap, snare, net, rifle, pistol, swivel gun, shotgun larger than 10

gauge, punt gun, battery gun, machine gun, fish hook, poison, drug, explosive, or stupefying substance.

(ii) From or by means, aid, or use of a sinkbox or any other type of low floating device having a depression affording the person a means of concealment beneath the surface of the water.

(iii) From or by means, aid, or use of any motor vehicle, motor-driven land conveyance, or aircraft of any kind, except that paraplegics and persons missing one or both legs may carry out take activities from any stationary motor vehicle or stationary motor-driven land conveyance.

(iv) From or by means of any motorboat or other craft having a motor attached, or any sailboat, unless the motor has been completely shut off and the sails furled, and its progress has ceased. A craft under power may be used only to retrieve dead or crippled birds; however, the craft may not be used under power to shoot any crippled bird.

(v) By the use or aid of live birds as decoys. It is a violation of this paragraph (g) for any person to take light geese on an area where tame or captive live geese are present unless such birds are and have been for a period of 10 consecutive days before the taking, confined within an enclosure that substantially reduces the audibility of their calls and totally conceals the birds from the sight of light geese.

(vi) By means or aid of any motor-driven land, water, or air conveyance, or any sailboat used for the purpose of or resulting in the concentrating, driving, rallying, or stirring up of light geese.

(vii) By the aid of baiting, or on or over any baited area, where a person knows or reasonably should know that the area is or has been baited as described in § 20.11(j–k). Light geese may not be taken on or over lands or areas that are baited areas, and where grain or other feed has been distributed or scattered solely as the result of manipulation of an agricultural crop or other feed on the land where grown, or solely as the result of a normal agricultural operation as described in § 20.11(h) and (l). However, nothing in this paragraph (g) prohibits the taking of light geese on or over the following lands or areas that are not otherwise baited areas:

(A) Standing crops or flooded standing crops (including aquatics); standing, flooded, or manipulated natural vegetation; flooded harvested croplands; or lands or areas where seeds or grains have been scattered solely as the result of a normal agricultural planting, harvesting, postharvest manipulation or normal soil stabilization practice as described in § 20.11(g), (i), (l), and (m);

(B) From a blind or other place of concealment camouflaged with natural vegetation;

(C) From a blind or other place of concealment camouflaged with vegetation from agricultural crops, as long as such camouflaging does not result in the exposing, depositing, distributing, or scattering of grain or other feed; or

(D) Standing or flooded standing agricultural crops where grain is inadvertently scattered solely as a result of a hunter entering or exiting a hunting area, placing decoys, or retrieving downed birds.

(viii) Participants may not possess shot (either in shotshells or as loose shot for muzzleloading) other than steel shot, bismuth-tin, tungsten-iron, tungsten-polymer, tungsten-matrix, tungsten-bronze, tungsten-nickel-iron, tungsten-tin-iron, tungsten-nickel-iron-tin, tungsten-iron-copper-nickel, or other shots that are authorized in § 20.21(j).

(h) *Can the conservation order be suspended?*

The Director reserves the right to suspend or revoke a State's or Tribe's authority under the conservation order if we find that the State or Tribe has not adhered to the terms and conditions specified in this section. The criteria for suspension and revocation are outlined in § 13.27 and § 13.28 of this subchapter. Upon appeal, final decisions to revoke authority will be made by the Director. Additionally, at such time that the Director determines that a specific population of light geese no longer poses a threat to habitats, agricultural crops, or other interests, or is within Flyway management objectives, the Director may choose to terminate part or all of the conservation order.

(i) *Under what conditions would the conservation order be suspended?*

The Director will annually assess the overall impact and effectiveness of the conservation order on each light goose population to ensure compatibility with long-term conservation of this resource. The Director will suspend the conservation order if at any time evidence clearly demonstrates that an individual light goose population no longer presents a serious threat of injury to the area or areas involved. Suspension by the Director will occur by publication of a notice in the **Federal Register**. However, resumption of growth by the light goose population in question may warrant reinstatement of the conservation order to control the population. The Director will publish a notice of such reinstatement in the **Federal Register**. Depending on the status of individual light goose populations, it is possible that a conservation order may be in effect for one or more light goose populations, but not others.

(j) *What are the information collection requirements?*

The information collection requirements associated with the conservation order are described in paragraphs (f)(6) through (9) of this section. Reported information helps us to assess the effectiveness of light geese population control methods and strategies and assess whether or not additional population control methods are needed. The Office of Management and Budget has approved this information collection and assigned OMB Control No. 1018–0103. We may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. At any time, you may submit comments on these information collection requirements to the Information Collection Clearance Officer, U.S. Fish and Wildlife Service, 1849 C Street, NW., (mailstop ARL SQ–222), Washington, DC 20240.

Dated: July 22, 2008.

Lyle Laverty,

Assistant Secretary for Fish and Wildlife and Parks.

Editorial Note: This document was received in the Office of the Federal Register on October 29, 2008.

[FR Doc. E8–26171 Filed 11–4–08; 8:45 am]

BILLING CODE 4310–55–P