

V. COMPARISON OF ALTERNATIVES

A. SUMMARY TABLE OF ENVIRONMENTAL CONSEQUENCES

A comparison of the impacts by alternative is presented in **Table V-1**. The analyses are based on professional judgement, previous experience, examples of actions and results, and the currently available literature. The impacts presented in the table represent what we consider reasonable outcomes based on the alternatives and current conditions as described in the DEIS. The comparison of impacts is not intended to suggest that other outcomes are not possible. In fact, there may be an infinite number of possible outcomes for these alternatives.

B. CONSISTENCY WITH MANAGEMENT PLANS

The Atlantic, Mississippi, Central and Pacific Flyway Councils make recommendations to the Service on matters regarding migratory game birds and work in a unique partnership with the Service and Canadian Wildlife Service to manage populations of migratory birds. Since the conception of flyway management in the 1930s and the initiation of flyway management in 1948, the Councils stature and influence have grown. As part of this unique relationship, the Service and the Councils have cooperatively developed management plans for a wide variety of migratory bird species and activities, and these plans have been appropriate mechanisms to address national and international issues related to migratory bird population goals and objectives, harvest considerations, and information needs. Since there are large numbers of resident Canada geese in each Flyway, cooperative Flyway management plans were developed to address these populations (see section **I.E. Flyway Council Management Plans** for further discussion). A commonality among the plans' goals is the need to balance the positive aspects of resident Canada geese with the conflicts they can cause. To accomplish these goals, the plans identify objectives in population status, harvest management, and nuisance control/damage relief (see **Table I-4**). In formulating our proposed action, we have tried to incorporate Flyway objectives into our analyses to help define acceptable and desirable population reduction and management.

As we stated in section **I.E.5. Relationship of Flyway Management Plans to the DEIS**, “the role of this DEIS is to act as an umbrella document for the management of resident Canada geese and to act as a comprehensive programmatic plan to guide and direct resident Canada goose population growth and management activities in the conterminous United States. In particular, the DEIS evaluates the various alternative strategies to reduce, manage, and control resident Canada goose populations in the continental United States and to reduce related damages. Further, the objective of this DEIS and any ultimate proposal is to provide a regulatory mechanism that would allow State and local agencies, other Federal agencies, and groups and individuals to respond to damage complaints or damages by resident Canada geese. The means must be more effective than the current system; environmentally sound, cost-effective, flexible enough to meet the variety of management needs found throughout the flyways, should not threaten viable resident Canada goose populations as determined by each Flyway Council, and must be developed in accordance with the mission of the Service.” We believe that Alternative F - “State Empowerment” is consistent with and best accomplishes the various goals and objectives of the individual Flyway management plans while remaining in accordance with the mission of the Service and Wildlife Services. Further, population reductions at the site-specific level within the guidelines and restrictions of this alternative will not be a significant impact on resident Canada geese because these levels maintain viable populations.

Table V-1. Comparison of impacts by alternative.

<u>Impacted Area</u>	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>				<u>Alternative F</u>	<u>Alternative G</u>
	No Action	Nonlethal Control & Management (Non-permitted Activities)	Nonlethal Control & Management (Permitted Activities)	Increased Hunting	Airport Depredation Order	Nest and Egg Depredation Order	Agricultural Depredation Order	Public Health Depredation Order	State Empowerment	General Depredation Order
Resident Canada goose populations	Population growth would continue at variable rates, depending on available habitat and conditions. At some future point, populations would probably level-off at some unknown but higher level.	Population growth would continue at highly variable rates, depending on available habitat and conditions. Overall, populations would eventually level-off at some unknown but much higher level.	Population growth would continue at variable rates, depending on available habitat and conditions. Overall, populations would probably level-off at some unknown but higher level.	Populations, especially those in urban areas, would likely continue to grow at variable rates, depending on available habitat and conditions. Some localized reductions could occur. Rural populations would likely experience reduced growth rates.	Localized significant reductions to populations at or near airports. Overall, population growth would continue at variable rates, depending on available habitat and conditions. Populations would probably level-off at some unknown but higher level.	Localized reductions in population growth rates and gradual stabilization of population depending on local aggressiveness of program. Overall, population growth would likely continue at variable, but slower rates than under Alt. A depending on available habitat and conditions.	Localized reductions in populations causing agricultural damage. Overall, population growth would likely continue at variable, but slower, rates than under Alt. A depending on available habitat and conditions. Populations would probably level-off at some unknown but slightly higher level.	Localized significant reductions to populations at specific location of management actions. Overall, population growth would continue at variable rates, depending on available habitat and conditions. Populations would probably level-off at some unknown but higher level.	Reduced growth rate or population reduction depending on State's selection of management actions. However, long-term viability of the various populations would not be affected. Populations would probably level-off at some unknown but significantly lower level.	Reduced growth rate or population reduction. However, long-term viability of the various populations would not be affected. Populations would probably level-off at some unknown but significantly lower level.
Natural resources	Continued impacts to soil and water resources.	Increased impacts to soil and water resources as populations rapidly increase.	Increased impacts to soil and water resources as population s increase.	Continued impacts to soil and water resources, however, impacts reduced from those experienced under Alt. A.	Overall, continued impacts to soil and water resources. Reduced localized impacts at participating airports.	Overall, continued impacts to soil and water resources. Gradual reduction in impacts at localized areas subjected to actions.	Overall, continued impacts to soil and water resources. Reduced localized impacts at agricultural locations.	Overall, continued impacts to soil and water resources. Significantly reduced localized impacts at site-specific locations.	Reduced or stabilized impacts to soil and water resources.	Reduced or stabilized impacts to soil and water resources.
Other wildlife including Federally protected species	Continued limited impacts to other migratory birds.	Increased impacts to other migratory birds.	Increased impacts to other migratory birds.	Continued limited impacts to other migratory birds, however, impacts reduced from those under Alt. A.	Continued limited impacts to other migratory birds.	Gradual decrease in impacts to other migratory birds.	Continued limited impacts to other migratory birds.	Continued limited impacts to other migratory birds.	Reduced or stabilized impacts to other migratory birds.	Reduced or stabilized impacts to other migratory birds.

Regular hunting seasons	Given continued population growth, hunting opportunities would continue to increase before gradually leveling off.	Given continued population growth, hunting opportunities would likely increase. Some new areas could be opened due to these population increases.	Given continued population growth, hunting opportunities would likely increase. Some new areas could be opened due to these population increases.	Given overall continued population growth, hunting opportunities would increase, but at a slower rate than under Alt. A.	Given continued population growth, hunting opportunities would continue to increase.	Given continued population growth, hunting opportunities would continue to increase.	Given continued population growth, hunting opportunities would continue to increase.	Given continued population growth, hunting opportunities would continue to increase.	Largely unaffected. Some slight reduction in hunting opportunities could occur in urban-related areas since most population reductions would occur in areas already closed to hunting or with limited opportunity.	Some reduction in hunting opportunities could occur in urban-related areas where most population reductions would occur. Other hunting opportunities would increase, but at a slower rate than under Alt. A.
Impacted Area	<u>Alternative A</u> No Action	<u>Alternative B</u> Nonlethal Control & Management (Non-permitted Activities)	<u>Alternative C</u> Nonlethal Control & Management (Permitted Activities)	<u>Alternative D</u> Increased Hunting	<u>Alternative E</u> Airport Depredation Order Nest and Egg Depredation Order Agricultural Depredation Order Public Health Depredation Order				<u>Alternative F</u> State Empowerment	<u>Alternative G</u> General Depredation Order
Special hunting seasons	Given continued population growth, hunting opportunities would continue to increase before gradually leveling off.	Significant. Special hunting seasons would be eliminated.	Given continued population growth, hunting opportunities would continue to increase. Some new areas could be opened due to these population increases.	Given overall continued population growth and new available techniques, opportunities would increase significantly then likely level off.	Given continued population growth, hunting opportunities would continue to increase.	Given continued population growth, hunting opportunities would continue to increase.	Given continued population growth, hunting opportunities would continue to increase.	Given continued population growth, hunting opportunities would continue to increase.	Some slight reduction in hunting opportunities could occur in urban and suburban areas where population reductions would likely occur. New available methods would significantly increase hunting opportunities.	Some reduction in hunting opportunities could occur in urban-related areas where most population reductions would occur. New available techniques, opportunities would increase significantly then likely level off.
Wildlife Services program	Workload would increase as complaints continue to increase.	Significant. Requests for technical assistance would increase substantially as complaints and conflicts would likely increase.	Significant. Requests for technical assistance would increase substantially as complaints and conflicts would likely increase.	Workload would increase as complaints and conflicts, especially in urban areas, continue to increase.	Initial workload increase establishing non-lethal harassment programs at airports. Subsequent workload reduction at airports once programs are established. Overall, workload would increase as complaints and conflicts, especially in urban areas, continue to increase.	Workload would likely be unaffected. Although population growth rates would gradually decline, current workload would remain.	Initial workload increase establishing non-lethal harassment programs. Subsequent workload reduction in agricultural areas once programs are established. Overall, workload would increase as complaints and conflicts, especially in urban areas, continue to increase.	Initial workload increase establishing non-lethal harassment programs. Subsequent workload reduction in these specific areas once programs are established. Overall, workload would increase as complaints and conflicts, especially in urban areas, continue to increase.	Workload would vary depending on State's selection of strategies. Probable significant initial workload increase establishing non-lethal harassment programs and assisting in establishing and implementing other programs. Subsequent workload reduction once programs are established and conflicts lessen.	Significant initial workload increase establishing non-lethal harassment programs and assisting in implementing other programs. Probable subsequent workload reduction once programs are established and conflicts lessen.

U.S. Fish and Wildlife Service program	Likely continued increase in complaints and conflicts would result in an increased workload and more permits being issued.	Permit workload would decrease significantly since no permits would be issued.	Permit workload would significantly decrease since most permit issuance would be eliminated.	Likely increase in complaints and conflicts, especially in urban areas, would result in an increased workload and more permits being issued.	Significant reduction in workload associated with geese at airports. Other workload would remain largely unaffected and likely increase in complaints and conflicts, especially in urban areas, would result in an increased workload and more permits being issued.	Significant reduction in workload associated with permits for nest and egg destruction. Other workload would remain largely unaffected.	Significant reduction in workload associated with geese causing agricultural impacts. Other workload would remain largely unaffected and likely increase in complaints and conflicts, especially in urban areas, would result in an increased workload and more permits being issued.	Significant reduction in workload associated with geese at specific locations, such as beaches, parks, etc. Other workload would remain largely unaffected and likely increase in complaints and conflicts, especially in urban areas, would result in an increased workload and more permits being issued.	Depending on State's selection of strategies, workload would vary, but likely significant reduction in workload. Most permits for resident Canada goose work would be eliminated as individual management decisions fall to the State. Other workload would remain largely unaffected.	Significant reduction in workload. Most permits for resident Canada goose work would be eliminated as decisions falls to the State, private entities, and/or individuals.
Impacted Area	<u>Alternative A</u> No Action	<u>Alternative B</u> Nonlethal Control & Management (Non-permitted Activities)	<u>Alternative C</u> Nonlethal Control & Management (Permitted Activities)	<u>Alternative D</u> Increased Hunting	<u>Alternative E</u> Airport Depredation Order Nest and Egg Depredation Order Agricultural Depredation Order Public Health Depredation Order				<u>Alternative F</u> State Empowerment	<u>Alternative G</u> General Depredation Order
State Programs	Increasing populations result in increases in conflicts and workload (i.e., requests for assistance, permit recommendations, assistance funds, etc.). States would likely look for increases in funding for goose damage management program.	Increased populations result in significant increases in conflicts. Workload related to technical assistance would increase. States participating in the special Canada goose permit program would have to cease all management activities.	Increased populations result in significant increases in conflicts. Workload related to technical assistance would increase. States participating in the special Canada goose permit program would have to cease most management activities.	Similar, but overall less pronounced, to Alt. A, especially in those urban and suburban areas not open to increased hunting. Areas open to increased hunting would likely see fewer requests for technical assistance and management activities.	Workload would remain largely unaffected and likely increase in complaints and conflicts, especially in urban areas, would result in an increased workload.	Significant reduction in workload associated with nest and egg destruction. Other workload would remain largely unaffected.	Significant reduction in workload associated with geese causing agricultural impacts. Other workload would remain largely unaffected and likely increase in complaints and conflicts, especially in urban areas, would result in an increased workload.	Significant reduction in workload associated with geese at specific locations, such as beaches, parks, etc. Other workload would remain largely unaffected and likely increase in complaints and conflicts, especially in urban areas.	Depending on State's selection of strategies, workload would vary. In participating States, increases in reporting and monitoring work. In non-participating States, workload would be unaffected and similar to Alt. A.	The State would not serve as the primary decision maker and manager as under Alternative F. Thus, the States would likely experience a significant reduction in permit recommendation and technical assistance workload as decisions falls to the State, private entities, and/or individuals.

Aesthetics	Likely increase in populations would provide more opportunities for public viewing. However, problems associated with large numbers of geese, i.e., droppings, feathers, etc. would likely increase.	Increase in populations would provide more opportunities for public viewing. However, problems associated with large numbers of geese, i.e., droppings, feathers, etc. would likely increase.	Increase in populations would provide more opportunities for public viewing. However, problems associated with large numbers of geese, i.e., droppings, feathers, etc. would likely increase.	Likely increase in urban populations would provide more opportunities for public viewing. However, problems associated with large numbers of urban geese (unavailable to hunting), i.e., droppings, feathers, etc. would likely increase.	Significant reduction in viewing opportunities at airports. Overall, likely increase in populations would provide more opportunities for public viewing. However, problems associated with large numbers of geese, i.e., droppings, feathers, etc. would likely increase.	In the short-term, public viewing opportunities would see little impact and the problems associated with large numbers of geese, i.e., droppings, feathers, etc. would likely continue. In the long-term, viewing opportunities would slightly decrease and associated problems should slightly decrease.	Little impact. Overall, likely increase in populations would provide more opportunities for public viewing. However, problems associated with large numbers of geese, i.e., droppings, feathers, etc. would likely increase.	Significant reduction in viewing opportunities at or near specific locations, such as beaches, parks, etc. Additionally, problems associated with large numbers of geese, i.e., droppings, feathers, etc. at these locations would also significantly decrease.	Likely significant reduction in viewing opportunities depending on the State's selection of management strategies. However, problems associated with large numbers of geese, i.e., droppings, feathers, etc. would also significantly decrease. Overall, viewing still readily available.	Likely significant reduction in viewing opportunities as populations decrease. However, problems associated with large numbers of geese, i.e., droppings, feathers, etc. would also significantly decrease. Overall, viewing still readily available.
Recreational use of impacted areas	Continued impacts as populations continue to grow.	Probable significant increase in impacts.	Probable significant increase in impacts.	Continued impacts as populations unavailable to hunting, i.e., those in urban areas, continue to grow.	Impacts likely increase as likely aggressive hazing of birds at airports causes displacement to other protected areas.	Continued impacts until populations gradually level off at reduced levels. At which point, impacts probably lessen.	Impacts likely increase as likely aggressive hazing of birds in agricultural areas causes displacement to other protected areas.	Continued impacts as likely aggressive hazing of birds in agricultural areas causes displacement to other protected areas.	Probable significant reduction in impacts as urban birds are targeted for reduction efforts.	Probable significant reduction in impacts as urban birds are targeted for reduction efforts.
Animal rights and humaneness	Continued use of lethal techniques.	Significantly less human-induced mortality. Potential for environmental mortality at carrying capacity.	Significantly less impacts on adult birds.	Continued use of lethal techniques. Increased impact on adult birds.	Continued use of lethal techniques. Increased impact on birds at airports.	Continued use of lethal techniques on both adults and eggs.	Continued use of lethal techniques. Increased impact on birds at agricultural sites.	Continued use of lethal techniques. Increased impact on birds at or near specific locations, such as beaches, parks, etc.	Significantly increased impact on birds depending on the State's selection of management strategies.	Significantly increased impact on birds.
Impacted Area	<u>Alternative A</u> No Action	<u>Alternative B</u> Nonlethal Control & Management (Non-permitted Activities)	<u>Alternative C</u> Nonlethal Control & Management (Permitted Activities)	<u>Alternative D</u> Increased Hunting	<u>Alternative E</u> Airport Depredation Order Nest and Egg Depredation Order Agricultural Depredation Order			<u>Alternative F</u> Public Health Depredation Order	<u>Alternative G</u> State Empowerment	<u>Alternative H</u> General Depredation Order
Residential, commercial, and public property	Continued impacts and conflicts as populations continue to grow.	Probable significant increase in impacts and conflicts.	Probable significant increase in impacts and conflicts.	Continued impacts and conflicts as populations unavailable to hunting continue to grow.	Impacts and conflicts likely increase as aggressive hazing of birds causes displacement to other protected areas.	Continued impacts and conflicts until populations gradually level off at reduced levels. At which point, impacts probably lessen.	Impacts and conflicts likely increase as aggressive hazing of birds causes displacement of birds to other protected areas.	Continued impacts and conflicts as populations continue to grow. Likely aggressive hazing of birds causes displacement to other protected areas.	Probable significant reduction in conflicts as urban birds are targeted for reduction efforts.	Probable significant reduction in conflicts as urban birds are targeted for reduction efforts.

Agricultural crops	Continued impacts as populations continue to grow.	Probable significant increase in impacts.	Probable significant increase in impacts.	Impacts probably lessened as populations responsible for damage available to increased hunting.	Impacts likely increase as aggressive hazing of birds causes displacement of birds to other protected areas.	Continued impacts until populations gradually level off at reduced levels. At which point, impacts probably lessen.	Significantly less impacts as birds are aggressively hazed.	Impacts likely increase as aggressive hazing of birds causes displacement to other protected areas.	Probable significant reduction as aggressive hazing causes immigration of birds to other areas.	Probable significant reduction as aggressive hazing causes immigration of birds to other areas.
Human safety	Continued impacts as populations continue to grow.	Probable significant increase in impacts.	Probable significant increase in impacts.	Continued impacts as populations unavailable to hunting continue to grow.	Significantly less impacts at airports.	Continued impacts until populations gradually level off at reduced levels. At which point, impacts probably lessen.	Impacts likely increase as aggressive hazing of birds causes displacement of birds to other protected areas.	Impacts likely increase as aggressive hazing of birds causes displacement of birds to other protected areas.	Significantly less impact as problem birds are targeted for reduction efforts.	Significantly less impacts as problem birds area targeted for reduction efforts.
Human health	Continued impacts as populations continue to grow.	Probable significant increase in impacts.	Probable significant increase in impacts.	Continued impacts as populations unavailable to hunting continue to grow.	Impacts likely increase as aggressive hazing of birds causes displacement of birds to other protected areas.	Continued impacts until populations gradually level off at reduced levels. At which point, impacts probably lessen.	Impacts likely increase as aggressive hazing of birds causes displacement of birds to other protected areas.	Significantly less impacts.	Significantly less impacts as problem birds area targeted for reduction efforts.	Significantly less impacts as problem birds area targeted for reduction efforts.

<u>Impacted Area</u>	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>				<u>Alternative F</u>	<u>Alternative G</u>
	No Action	Nonlethal Control & Management (Non-permitted Activities)	Nonlethal Control & Management (Permitted Activities)	Increased Hunting	Airport Depredation Order	Nest and Egg Depredation Order	Agricultural Depredation Order	Public Health Depredation Order	State Empowerment	General Depredation Order
Administrative costs	<u>FWS</u> - Likely increase costs due to increases in permits issuance. <u>WS</u> -Costs would increase as complaints continue to increase.	<u>FWS</u> -Significant decrease as permits would be eliminated. <u>WS</u> -Significant increase in costs as complaints and requests for technical assistance would substantially increase.	<u>FWS</u> -Significant decrease as most permits would be eliminated. <u>WS</u> - Significant increase in costs as complaints and requests for technical assistance would substantially increase.	<u>FWS</u> -Likely increase in complaints and conflicts, especially in urban areas, would result in an increased workload, more permits being issued, and increased costs. <u>WS</u> -Costs would increase as complaints and conflicts, especially in urban areas, continue to increase.	<u>FWS</u> -Overall, costs remain largely unaffected. <u>WS</u> -Initial costs increase establishing non-lethal harassment programs. Overall, costs would remain largely unaffected.	<u>FWS</u> -Slightly less costs since reduction in workload associated with permits for nest and egg destruction. <u>WS</u> -Costs would likely be unaffected. Although population growth rates would gradually decline, current costs would remain.	<u>FWS</u> -Overall, costs remain largely unaffected. <u>WS</u> -Initial significant costs increase establishing non-lethal harassment programs. Subsequent costs reduction once programs are established	<u>FWS</u> -Overall, costs remain largely unaffected. <u>WS</u> -Initial costs increase establishing non-lethal harassment programs. Subsequent costs reduction once programs are established	<u>FWS</u> -Depending on State's selection of strategies, costs would vary, but likely significantly reduced. Most permits would be eliminated as decisions would fall to the State. <u>WS</u> -Costs would vary depending on State's selection of strategies. Probable initial costs increase establishing non-lethal harassment programs and assisting in implementing other programs. Subsequent costs reduction once programs are established and complaints and conflicts lessen.	<u>FWS</u> -Significantly less since most permits for resident Canada goose work would be eliminated as decisions would fall to the State, private entity, or individuals. <u>WS</u> -Significant initial costs increase establishing non-lethal harassment programs and assisting in implementing other programs. Probable subsequent costs reduction once programs are established and complaints lessen.
Monitoring costs	Continued status quo. No new costs.	No new costs.	No new costs.	No significant new costs.	No significant new costs.	No significant new costs.	No significant new costs.	No significant new costs.	Significantly increased costs for those States with populations not currently monitored or not adequately monitored.	Significantly increased costs for those States with populations not currently monitored or not adequately monitored.