

Final Environmental Impact Statement

Regulations Governing Take of Migratory Birds

Prepared by

U.S. Department of the Interior

Fish and Wildlife Service

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The U.S. Fish and Wildlife Service (Service) and its mission

“Our mission is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.”

The Service was established in the Department of the Interior (DOI) in 1940 through the consolidation of bureaus then operating in several federal departments. The primary precursor agency was the Bureau of Biological Survey in the U.S. Department of Agriculture (USDA). Today, the Service enforces federal wildlife laws, manages migratory bird populations, restores nationally significant fisheries, conserves and restores vital wildlife habitat, protects and supports recovery of endangered species, and helps other agencies and governments with conservation efforts. In addition, it administers the distribution of over one billion dollars of excise taxes paid by the hunting, shooting, boating, and angling industries. These funds are distributed to States for fish and wildlife restoration, boating access, hunter education, and related programs.

Summary

The Migratory Bird Treaty Act (MBTA) was enacted in 1918 to help fulfill the United States' obligations in the 1916 "Convention between the United States and Great Britain for the protection of Migratory Birds." 39 Stat. 1702 (Aug. 16, 1916). The goal of the MBTA was to stop the unregulated killing of migratory birds. Under the MBTA, "taking" of listed migratory birds is subject to authorization from the U.S. Fish and Wildlife Service (Service). "Take" is defined in the Service's general wildlife regulations as "to pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR 10.12).

Background

For most of its history, the MBTA has generally been interpreted through the lens of strict liability. The strict liability standard makes any unauthorized taking of migratory birds an illegal action, regardless of intent. Historically, federal courts have interpreted the MBTA inconsistently, both by creating different exceptions to strict liability and in its application to incidental take (take of migratory birds that results from an activity but is not the purpose of that activity), which has created a patchwork system of enforcement across the country and created legal uncertainty for the American people.

On December 22, 2017, the Principal Deputy Solicitor of the Department of the Interior, exercising the authority of the Solicitor pursuant to Secretary's Order 3345, issued a legal opinion, M-Opinion 37050, "The Migratory Bird Treaty Act Does Not Prohibit Incidental Take." M-Opinion 37050 concluded that the MBTA's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to actions intentionally or purposefully "taking" migratory birds, their nests or their eggs. The Opinion is based upon a thorough analysis of the statutory text, legislative history, and numerous court decisions. The purpose of M-Opinion 37050 was to provide the Solicitor's view of the correct legal interpretation of the MBTA and thus provide legal certainty on the application of the MBTA to incidental take. The Service proposed to adopt the Solicitor's interpretation, clarifying that the MBTA's prohibitions apply only to actions directed at migratory birds, and analyzed reasonable alternatives to that proposal in a draft Environmental Impact Statement (EIS).

After issuance of the proposed rule and draft EIS, a federal district court vacated M-Opinion 37050. *See Natural Resources Defense Council v. U.S. Dep't of the Interior*, 2020 WL 4605235 (S.D.N.Y. Aug. 11, 2020). We respectfully disagree with the district court's holding that the plain language of the MBTA prohibits incidental take. The court's vacatur of the M-Opinion does not directly affect our rulemaking process and effectively underscores the need to codify our official interpretation of the MBTA's application to incidental take. Therefore, we have continued to develop our proposal, including finalizing this EIS.

The Service prepared this final EIS following the Council of Environmental Quality regulations, which implement the National Environmental Policy Act (NEPA). We have identified a purpose and need for this action, provided reasonable alternatives, defined the affected environment, and analyzed the consequences of each alternative on the human environment.

Purpose and Need for Action

The Service proposes to develop a regulation in 50 CFR part 10 that defines the scope of the MBTA as it relates to incidental take. This regulation would provide legal certainty for the public regarding what actions are prohibited under the MBTA. The purpose of this action is to provide an official regulatory definition of the scope of the statute as it relates to incidental take of migratory birds. This action is necessary to improve consistency and efficiency in enforcement of the MBTA's prohibitions across the country and inform the public, businesses, government agencies, and other entities what is and is not prohibited under the MBTA.

Public Scoping

On February 3, 2020, the Service published a Notice of Intent (NOI) to prepare a draft environmental review pursuant to the NEPA. The Service used this NOI to notify federal and State agencies, tribes, and the public of our intentions to evaluate the potential environmental impacts of the proposed action. In the NOI, we invited input from other federal agencies, State agencies, tribes, nongovernmental organizations, and members of the public on the scope of the proposed environmental review, including any pertinent issues we should address and alternatives to our proposed approach for authorizing incidental take, as well as input on the concurrently published proposed rule to define the scope of the MBTA. The public comment period on both documents was open until March 19, 2020.

Five public scoping webinars were convened between March 3 and March 16, 2020. Additionally, one webinar was conducted strictly for members of federally recognized tribes. During these webinars, Service biologists gave presentations that were streamed live and recorded. These presentations described the process for creating the draft EIS that included the purpose and need for the action, most of the alternatives being initially considered, and reiterated the need for specific information for the analysis of the alternatives. The participants were given opportunities to ask questions and seek clarity on the process.

On June 5, 2020, the Service published the draft EIS, opening up another 45-day public comment period. In the DEIS, the Service proposed a no action alternative and two action alternatives.

During the public comment period, we received 8,398 distinct comments on the Proposed Rule and the NOI, we received an additional 5,818 distinct comments on the draft EIS. Many comments included additional attachments (e.g., scanned letters, photographs, and supporting documents). These comments represented the views of multiple State and local government agencies, a U.S. treaty partner, private industries, non-governmental organizations, and private citizens. In addition to the individual comments received, multiple organizations submitted attachments representing individuals' comments, form letters, and signatories to petition-like letters representing almost 180,000 signers.

Alternatives

The Service proposed a no action and two action alternatives to be analyzed in the draft EIS. We also considered two alternatives that we determined do not meet the purpose and need, which

will not be carried forward for further review. These alternatives are presented below with minor changes from those presented in the DEIS.

Action Alternatives

The No Action Alternative, Action Alternatives A and B, and two alternatives that were considered but not carried forward are described below.

No Action Alternative

Under the No Action Alternative, the Service would continue to implement the MBTA consistent with the interpretation established by M-Opinion 37050 and further explained in the proposed rule, which defines the scope of the MBTA to exclude incidental take. The Service's enforcement of the MBTA is currently focused on actions directed at migratory birds. Under the No Action Alternative, the Service would still enforce the MBTA in cases of unauthorized actions directed at migratory birds and provide technical assistance to industry, the public, and partners seeking to reduce impacts to migratory birds voluntarily or to comply with other federal, State, local, or tribal laws and regulations.

Alternative A - Promulgate regulations that define the scope of the MBTA to exclude incidental take

Under Alternative A, the Service would promulgate a regulation that defines the scope of the MBTA's prohibitions to include only actions directed at migratory birds. This regulatory change is not expected to change current implementation or enforcement of the MBTA (parties are not currently subject to enforcement for the incidental take of birds).

Promulgating this regulation would be consistent with the Department's position, explained in the proposed rule, that the MBTA's prohibitions apply only to actions directed at migratory birds, their nests, or their eggs. Consistent with statutory language and case law, we would continue to view the MBTA's misdemeanor provision as a strict liability crime for any action directed at migratory birds. This is the Service's preferred alternative because it would clarify and more permanently establish the Department's position on whether the MBTA prohibits incidental take, potentially reduce the regulatory burden on the public, and simplify the obligations of the Service's law enforcement officers under the MBTA.

Alternative B: Promulgate regulations that define the scope of the MBTA to include incidental take

Under this alternative, the Service would promulgate a regulation that interprets the MBTA to prohibit incidental take under the Department's prior interpretation outlined in M-Opinion 37041. By reverting to this interpretation, the Service would view the incidental take of migratory birds as a violation of the MBTA.

The Service's Office of Law Enforcement would investigate incidental take at a particular site or project if it receives a complaint or has reason to believe that an unlawful take occurred. The Service would consider good faith attempts to meet voluntary standards when making

enforcement decisions under the MBTA to provide an incentive to implement those voluntary measures. There would be no initial regulatory framework to authorize incidental take under this alternative; the Service would simply rely on law enforcement discretion, as it did under the prior interpretation, in determining when to pursue alleged incidental take violations. There would be a greater burden on regulated entities and the Service's law enforcement officers and uncertainty would remain regarding whether a specific activity that incidentally takes birds could be subject to enforcement. But there would also be greater legal certainty achieved by informing the public, businesses, government agencies, and other entities what is and is not prohibited under the MBTA in a regulation. The Service would have the option of developing a system of regulatory authorization in the future.

Alternatives Considered but Not Carried Forward for Further Review

We considered the two alternatives below but determined not to carry them forward for further analysis because they do not meet the purpose and need for the proposed action.

Develop a general-permit framework to regulate incidental take

We considered an alternative under which the Service re-establishes the Department's prior interpretation that the MBTA prohibits incidental take and promulgates a regulation defining that position, and subsequently establishes a regulatory general-permit framework. Under this framework, the Service could create general permits that provide legal coverage for a variety of activities that commonly take migratory birds incidentally. This general-permit system could take many forms, but one possibility would be to use a risk-management approach that identifies specific hazards associated with particular activities and establishes best practices as permit conditions to reduce or avoid those hazards. A general-permit framework could require a nominal application fee and potentially an in-lieu fee to compensate for any remaining take after implementation of avoidance and minimization measures. Any incidental take occurring under a general permit would be authorized and not subject to enforcement. The Service would continue to use enforcement discretion for activities not covered by a general permit and large-scale, incidental-take incidents, such as oil spills.

The Service eliminated this alternative from further review at this time because developing a general-permit system would be a complex process and better suited to analysis in a separate subsequent proposal if we were to select Alternative B. This alternative goes beyond the current purpose and need of simply providing regulatory certainty regarding the Service's interpretation of the MBTA as it relates to incidental take. For these reasons, it would be premature to discuss this alternative in detail under this proposed action. Thoroughly evaluating this alternative would instead require a separate detailed process to define adequately the parameters of such a permit system. Developing a general permit system would likely require the following at a minimum: determining reasonable and adequate conservation measures for different industries and activities that effectively reduce the impacts of the actions of private parties and government entities on over 1,000 bird species, whether a separate rulemaking would be required for each individual general permit, and how to authorize actions that do not fit within a general-permit category.

Develop an enforcement system to address gross negligence

We also considered an alternative where the Service promulgates a regulation defining the MBTA to prohibit incidental take of migratory birds and develops an enforcement policy requiring gross negligence to establish a misdemeanor violation of the MBTA for incidental take. Criminal statutes generally require proof that the accused acted with a specific mental state (or *mens rea*). Gross negligence is a specific mental state generally defined as carelessness or reckless disregard of the consequences of an action, especially when a reasonable person should have anticipated and guarded against it. Establishing a gross negligence requirement for a misdemeanor violation would allow the Service to focus its law enforcement resources on activities known to take birds incidentally that do not implement reasonable best practices known to avoid or minimize that take.

The Service eliminated this alternative from further review because it fails to meet the purpose and need of this proposal. A significant majority of federal courts have interpreted the MBTA's misdemeanor provision to be a strict liability offense, meaning that no mental state is required to prove a violation has occurred. This alternative would have established a gross-negligence mental state requirement before the Service could enforce the statute's misdemeanor provision. Thus, it would be inconsistent with most case law and, therefore, would likely reduce legal certainty for the public.

Affected Environment

The affected environment, or existing condition, provides an environmental baseline for the analysis of alternatives. The geographic scope applicable to all alternatives in this EIS is the entire United States and its territories and possessions. These resources are located on the North American continent and in the Atlantic and Pacific Oceans. The following resources are included in the analysis:

- Migratory Bird populations; including hazards affecting birds, the management of birds, and authorized intentional take
- Best practices to protect migratory birds
- Ecosystem services and socioeconomic effects from migratory birds
- Other biological resources affected, including vegetation and wildlife
- Affected cultural and tribal resources; and
- Environmental justice.

Table S- 1. Summary of Effects of the Alternatives

This table presents a comparative assessment of the individual impacts of the alternatives analyzed in this EIS. The three alternatives, including no action, are predicted to have incremental effects on current environmental conditions. The table compares the relative magnitude of impact for each alternative on the affected environment where possible, allowing a direct comparison between alternatives for each impact.

Effect or Impact	No Action	A: Promulgate regulations to define MBTA to exclude incidental take	B: Promulgate regulations to define MBTA to include incidental take
Implementation of Best Practices and Industry Standards	Potential decrease over time. Some entities may continue to implement due to other federal, State, local regulations, legal uncertainty, industry best practices, or public concern. As entities become more confident of the permanence of DOI's current policy not to enforce incidental takes, there could be a reduction in implementation of best practices, which could lead to negative indirect effects on migratory birds.	Likely decrease. Some entities would likely reduce implementation with legal certainty of no enforcement. Some may continue implementation because they are industry best practices, are compelled by other federal, State, local regulations, or due to public concern. Reduction in implementation could lead to negative indirect effects on migratory birds.	Likely increase. All entities are subject to enforcement of incidental take. The threat of enforcement would likely incentivize more entities to implement best practices. Increase in implementation could lead to positive indirect effects on migratory birds.
Effects on Migratory Birds	Likely Negative. Over time as entities become more confident of the continued implementation of our current policy not to enforce incidental takes, there would likely be a reduction in the number of best practices implemented.	Likely negative. As the legal certainty increases, fewer entities would likely implement best practices compared to the No Action Alternative, resulting in increased bird mortality (although this effect is reduced where best practices are required by other State and federal laws to protect migratory birds).	Likely positive. More entities would likely implement best practices to avoid the threat of enforcement. Therefore, there is likely to be a decrease in bird mortality compared to the No Action alternative. Likely increase in fines and other adjudications used to benefit migratory birds as a result of enforcement.
Effects on Other Biological Resources	Likely negative. Many best practices provide benefits to taxa other than birds. Anticipated decrease in implementation of best practices, would likely result in negative effects.	Likely negative. Many best practices provide benefits to taxa other than birds. Greater anticipated decrease in implementation of best practices, would likely result in greater negative effects than the No Action Alternative.	Likely positive. Many best practices provide benefits to taxa other than birds. Anticipated increase in implementation of best practices would likely result in positive effects on other taxa. Habitat protection and restoration from use of fines would likely benefit vegetation and wildlife.
Effects on Cultural Resources	Likely negative. Any increase in the incidental take of migratory birds and	Likely negative. Any increase in the incidental take of migratory birds and	Likely positive. An increase in implementation of best practices would

	associated impacts with other biological resources could impact species that are culturally important to native peoples.	associated impacts with other biological resources could impact species that are culturally important to native peoples.	likely benefit both birds and other biological resources that are culturally important to native peoples.
Effects on Ecosystem Services	Likely reduction in ecosystem services provided by birds due to potential increase in take from reduced implementation of best practices.	Likely reduction in ecosystem services provided by birds due to potential increase in take from reduced implementation of best practices.	Likely increase in ecosystem services provided by birds as take is potentially reduced by greater implementation of best practices. Additional ecosystem service benefits from use of fines. Additional ecosystem service benefits from whatever species replaces incidentally taken birds.
Economic Effects	<p>No change likely in legal and financing costs from current implementation of current policy not to enforce incidental takes.</p> <p>Likely decrease in the costs of implementing best practices over time as entities become more confident in the continued implementation of current Policy.</p> <p>May decrease revenue for businesses directly dependent on birds (hunting, bird watching, guides, and ecotourism).</p> <p>May increase costs for businesses dependent on ecosystem services provided by birds (seed dispersal and pollination, etc.)</p>	<p>Likely reduced legal and financing costs with improved legal certainty of regulation.</p> <p>Likely decrease in the costs of implementing best practices when not required by other federal, State, tribal or local laws and regulations.</p> <p>May decrease revenue for businesses directly dependent on birds (hunting, bird watching, guides, and ecotourism).</p> <p>Likely increased costs for businesses dependent on ecosystem services provided by birds (seed dispersal and pollination, etc.)</p>	<p>Likely net increase in legal and financing costs. A regulation will improve certainty in one respect, but uncertainty will increase regarding whether an activity is subject to enforcement.</p> <p>Likely increased costs for implementing best practices for industries that impact birds to reduce the likelihood of potential enforcement.</p> <p>May benefit businesses directly dependent on birds, if opportunities to see birds increases.</p> <p>May decrease costs to businesses that depend on ecosystem services provided by birds (seed dispersal and pollination, etc.)</p>
Effects on Environmental Justice	No disproportionately high and adverse effect on minority or low-income populations.	No disproportionately high and adverse effect on minority or low-income populations.	No disproportionately high and adverse effect on minority or low-income populations.
Cumulative Effects	May increase rate and severity of cumulative anthropogenic effects on birds.	May increase rate and severity of cumulative anthropogenic effects on birds. Likely greater increase than No Action.	May decrease cumulative anthropogenic effects on birds if best practices are broadly implemented.

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1 BACKGROUND AND PURPOSE AND NEED

1.1 Implementing the Migratory Bird Treaty Act

The U.S. Fish and Wildlife Service (Service) is the federal agency delegated the primary responsibility for managing migratory birds consistent with four international migratory bird treaties (between the United States and Canada, Mexico, Japan, and Russia)¹ and the implementing legislation: the Migratory Bird Treaty Act (MBTA; 16 U.S.C. §§ 703–712). The MBTA was enacted in 1918 to help fulfill the United States’ obligations under the 1916 “Convention between the United States and Great Britain for the protection of Migratory Birds.” The goal of the MBTA was to stop the unregulated killing of migratory birds at the federal level.

The MBTA makes it unlawful to, among other things, take individuals of most bird species found in the United States, unless that taking is authorized by a regulation promulgated under 16 U.S.C. 704. “Take” is defined in the Service’s general wildlife regulations as “to pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12).

Federal courts have adopted different views on whether the MBTA prohibits the “incidental take” of migratory birds, and, if so, to what extent. Incidental take of migratory birds is take that results from an activity, but is not the purpose of that activity (also sometimes referred to as accidental, unintentional, or non-purposeful taking). Some federal appellate and district courts have held that the MBTA criminalizes certain activities that incidentally take migratory birds, generally with some form of limiting construction, while others have indicated that it does not. The result is an inconsistent patchwork of legal standards, all purporting to apply the same underlying law, which, in turn, has resulted in legal uncertainty for the public as to whether their actions may or may not violate the MBTA. It is in the public interest to apply a national standard that sets a clear, consistent and articulable rule for when a person or operator commits a criminal misdemeanor violation of the MBTA.

On December 22, 2017, the Principal Deputy Solicitor of the Department of the Interior, exercising the authority of the Solicitor pursuant to Secretary’s Order 3345, issued a legal opinion, M-Opinion 37050, “The Migratory Bird Treaty Act Does Not Prohibit Incidental Take.” M-Opinion 37050 concluded that the MBTA’s prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to actions intentionally or

¹ The Convention between the United States and Great Britain for the Protection of Migratory Birds, U.S.-Gr. Brit., Aug. 16, 1916, 39 Stat. 1702, amended by the Protocol between the United States and Canada Amending the 1916 Convention for the Protection of Migratory Birds in Canada and the United States, U.S.-Can., Dec. 14, 1995, T.I.A.S. 12721; Convention between the United States of America and Mexico for the Protection of Migratory Birds and Game Mammals, U.S.-Mex., Feb. 7, 1936, 50 Stat. 1311, and Agreement Supplementing the Agreement of February 7, 1936, U.S.-Mex., Mar. 10, 1972, 23 Stat. 260; 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, U.S.-Japan, Mar. 4, 1972 25 Stat. 3329; and Convention between the United States of America and the Union of Soviet Socialist Republics Concerning the Conservation of Migratory Birds and their Environment, U.S.-U.S.S.R., Nov. 19, 1976, 1134 U.N.T.S. 97.

purposefully "taking" migratory birds, their nests or their eggs. The Opinion is based upon a thorough analysis of the statutory text, legislative history, and numerous court decisions. The purpose of M-Opinion 37050 was to provide the Solicitor's view of the correct legal interpretation of the MBTA and thus provide legal certainty on the application of the MBTA to incidental take. The Service proposed to adopt the Solicitor's interpretation, clarifying that the MBTA's prohibitions apply only to actions directed at migratory birds, and analyzed reasonable alternatives to that proposal in a draft Environmental Impact Statement (EIS).

After issuance of the proposed rule and draft EIS, a federal district court vacated M-Opinion 37050. *See Natural Resources Defense Council v. U.S. Dep't of the Interior*, 2020 WL 4605235 (S.D.N.Y. Aug. 11, 2020). We respectfully disagree with the district court's holding that the plain language of the MBTA prohibits incidental take. The court's vacatur of the M-Opinion does not directly affect our rulemaking process and effectively underscores the need to codify our official interpretation of the MBTA's application to incidental take. Therefore, we have continued to develop our proposal, including finalizing this EIS.

1.2 Purpose and Need for Action

The Service interprets the MBTA to prohibit only actions directed at migratory birds, their nests, or their eggs, clarifying that incidental take is not prohibited. Historically, the Service relied on enforcement discretion alone to apply the MBTA's criminal misdemeanor provision. The purpose of this action is to provide a regulatory definition of the scope of the statute as it relates to incidental take of migratory birds. The Service needs to conduct this action to improve consistency in enforcement of the MBTA's prohibitions across the country and thereby eliminate public uncertainty caused by the current patchwork of legal standards across the different federal courts of appeals, which have reached different conclusions on the central question of whether the MBTA prohibits incidental take.

1.3 Proposed Action

The Service proposes to develop a regulation in 50 CFR part 10 that defines the scope of the MBTA to exclude incidental take. This regulation would provide legal certainty for the public regarding what actions are prohibited under the MBTA. By taking action to clarify legal standards under the MBTA, the public, businesses, government agencies, and other entities are afforded legal clarity and certainty regarding what is and is not prohibited under the MBTA.

1.4 Purpose of the Environmental Impact Statement

The National Environmental Policy Act (NEPA; 42 U.S.C. §§ 4321–4347) requires that federal agencies consider the effects of a proposed action and any reasonable alternatives on the human environment. An EIS evaluates and discusses potential environmental impacts that would occur as a result of an agency taking an action. It details the process through which a project is developed, includes consideration of a range of reasonable alternatives, analyzes the potential impacts resulting from the alternatives, and demonstrates compliance with other applicable environmental laws and executive orders.

The purpose of this EIS is to evaluate the impacts (both positive and negative) that the proposed action, a no action alternative, and other reasonable alternatives may have on the human environment. Alternatives we considered are listed here:

- No Action – Continue to implement the MBTA consistent with the interpretation established by M-37050, which defines the scope of the MBTA to exclude incidental take.
- Promulgate a regulation that defines the scope of the MBTA to exclude incidental take (preferred alternative)
- Promulgate regulations to define the scope of the MBTA to include incidental take
- Develop a permit system to regulate incidental take (not carried forward for further review)
- Develop an enforcement policy to address gross negligence (not carried forward for further review)

1.5 Public Participation and Consultation

The Council for Environmental Quality (CEQ) requires that federal agencies invite federal and State agencies, the public, private entities, and tribes to participate in the environmental review process (40 CFR 1501.7). This participation is considered scoping.

1.5.1. Scoping

To ensure an open and transparent public scoping process, the Service offered other federal agencies, States, tribes, the general public, and private entities the opportunity to review and comment on a Notice of Intent (NOI) to prepare an EIS and a Proposed Rule and participate in live scoping webinars that focused on our initial approach to developing the draft EIS. The comment period for both documents was 45-days and all comments were required to be submitted via hard copy or via the regulations.gov portal to dockets FWS-HQ-MB-2018-0090-0001 (NOI) and FWS-HQ-MB-2018-0090-0002 (Proposed Rule). The public comment period closed on March 19, 2020.

1.5.1.1 Notice of Intent

On February 3, 2020, the Service published the NOI to prepare a draft environmental review pursuant to NEPA. The Service used this NOI to notify federal and State agencies, tribes, nongovernmental organizations, industry representatives, the public, and any other interested entities of our intentions to evaluate the potential environmental impacts of the proposed action. We invited input from these entities on the scope of the proposed NEPA analysis, the pertinent issues we should address, and alternatives to our proposed approach for authorizing incidental take.

Specific information sought included:

- (1) The avoidance, minimization, and mitigation measures entities employed to address incidental take of migratory birds (prior to M-Opinion 37050);
- (2) The direct costs associated with implementing these measures;

- (3) Indirect costs that entities have incurred related to the legal risk of prosecution for incidental take of migratory birds (e.g., legal fees, increased interest rates on financing, insurance, opportunity costs);
- (4) The extent that avoidance, minimization, and mitigation measures continue to be used (after issuance of M-Opinion 37050);
- (5) Any quantitative information regarding the economic benefits and/or ecosystem services (e.g., pollination, pest control, etc.) provided by migratory birds;
- (6) Information regarding resources that may be impacted by the proposal; and
- (7) Species having religious or cultural significance for tribes, and species having cultural significance for the public and impacts to cultural values from the actions being considered.

1.5.1.2 Proposed Rule

The Service also published a Proposed Rule using the preferred alternative from this EIS on February 3, 2020. We invited input from other federal and State agencies, tribes, nongovernmental organizations, and other interested members of the public on the proposal to define the scope of the MBTA and provide specific information that would assist in the development of the draft EIS. The Proposed Rule solicited the same seven areas of information as requested in the NOI. Because the Proposed Rule and NOI were issued contemporaneously and specifically solicited the same information, comments on both documents were considered in developing the draft EIS.

1.5.1.3 Draft EIS Scoping Webinars

The Service held six public scoping webinars open to any member of the public, including members of federal and State agencies, tribes, non-government organizations, private industries, and American citizens. One webinar was conducted strictly for members of federally recognized tribes. These webinars were held between March 3 and March 16, 2020.

During these webinars, Service biologists gave presentations that were streamed live and recorded. These presentations described the process for creating the draft EIS that included the purpose and need for the action, the initial alternatives being considered, and reiterated the need for specific information for the analysis of the alternatives being considered and any other potential reasonable alternatives. The participants were given opportunities to ask questions and seek clarity on the process.

1.5.1.4 Draft EIS

After reviewing comments submitted on the NOI and the proposed rule, the Service completed a draft EIS and published for public comment on June 5, 2020. We invited input from other federal and State agencies, tribes, nongovernmental organizations, and other interested members of the public on the environmental impacts of the proposed action to define the scope of the MBTA and the alternatives.

1.5.2 Summary of Public Comments

During the public comment period, we received 8,398 distinct comments on the Proposed Rule and the NOI. We received an additional 5,818 distinct comments on the draft EIS. Many comments included additional attachments (e.g., scanned letters, photographs, and supporting documents). These comments represented the views of multiple State and local government agencies, private industries, non-governmental organizations, and private citizens. In addition to the individual comments received, multiple organizations submitted attachments representing individuals' comments, form letters, and signatories to petition-like letters representing almost 180,000 signers. Substantive comments are summarized and reproduced in Appendix C below along with our responses to those comments.

1.5.3 Effect of the Scoping Process on the Proposed and Final Rule and the Draft and Final EIS

The Service reviewed every comment from all participants in the process. The comments were used to help refine and develop the Purpose and Need, Alternatives, and Consequences Analysis.

1.5.4 Tribal Outreach

On March 16, 2020, the Service held a webinar that was restricted in attendance to allow only tribal members to attend, with the purpose of informing tribes of the proposed action and soliciting input and feedback. Similar to the other webinars, tribal representatives were invited to ask questions and seek clarifications. In addition, a letter was sent through our regional offices to invite tribes to engage in this proposed action via the government-to-government consultation process. We received requests from eight federally recognized Tribes and two Tribal councils for government-to-government consultation. Accordingly, the Service initiated government-to-government consultation via letters signed by Regional Directors.

2 THE ALTERNATIVES

2.1 Introduction

The Service proposes to promulgate a rule that provides legal certainty for the public regarding what actions are prohibited as criminal misdemeanor violations under the MBTA. NEPA requires that a federal agency consider a reasonable range of alternatives, including a No Action Alternative (40 CFR 1502.14). The action alternatives describe two approaches that the Service could take to provide increased regulatory certainty regarding incidental take of migratory birds. The intent of this analysis is to provide decision-makers with a meaningful range of reasonable alternatives to foster informed decisions and public participation. The Service is considering the No Action Alternative and two action alternatives for achieving greater regulatory certainty.

The Service's preferred alternative is to promulgate regulations defining the scope of the MBTA to not prohibit incidental take. This approach provides regulatory certainty for industries and agencies, is feasible to implement using current Service resources, and is consistent with the purpose and need for the proposed action. The No Action Alternative describes how the incidental take of migratory birds would be regulated without the Service taking an action to codify into regulation our interpretation of the MBTA as it applies to incidental take. None of these alternatives directly affect the implementation and enforcement of the Endangered Species Act (ESA, 16 U.S.C. 1531 et seq.) or the Bald and Golden Eagle Protection Act (Eagle Act, 16 U.S.C. §§ 668-668d).

2.1.1 Considerations Common to All Alternatives

For the analysis of each of the alternatives below, the Service reasoned that there are many factors that influence an entity's decision to implement measures that may protect migratory birds from incidental take. In some cases, there are other federal, State, tribal, or local laws and regulations that directly or indirectly require actions to benefit or otherwise reduce impacts on migratory birds. Federal statutes such as the Endangered Species Act and the Bald and Golden Eagle Protection Act require entities to take steps to reduce incidental take and protect habitat, which may in turn benefit migratory birds and other wildlife. For example, the Federal Aviation Administration approved new lighting standards that require flashing lighting on most communication towers greater than 350 feet above ground level. Additionally, 13 States have regulations governing netting of oil pits (see p13, USFWS 2009). These federal and State regulations and guidelines reduce the risk of incidental take of migratory birds.

Federal agencies are required to evaluate the impacts to the environment of their proposed actions under NEPA. NEPA compliance requires federal entities to identify impacts to the environment affected by a proposal, including impacts to migratory birds and socioeconomic impacts if they are likely to occur. NEPA also requires federal entities to assess potential mitigation of unavoidable adverse environmental impacts, which may include analysis of project design or mitigation measures that reduce potential impacts to migratory birds. Some States

have NEPA equivalent statutes (e.g., California Environmental Quality Act) and a variety of provisions regulating some form of incidental, indirect, or accidental take, or potentially allowing commissions or agencies to make applicable rules. In 2019, in response to the now vacated M-Opinion 37050, California passed the Migratory Bird Protection Act, which makes it unlawful to take or possess any migratory nongame bird protected under the MBTA. It is expected that some additional States will craft new regulations to clarify that they have jurisdiction to regulate or otherwise oversee incidental take of migratory birds (AFWA 2019).

Additional reasons that may factor into an entity's decision to implement measures that may reduce the risk of incidental take include the following: public perception, size of company, cost of implementation, perceived risk of killing migratory birds, or availability of standard industry practices. Some entities may continue to implement practices that reduce take for any of these reasons or simply to reduce their perceived legal risk due to short- or long-term uncertainty concerning future application of laws and regulations governing take of migratory birds.

2.2 No Action Alternative

Under the No Action Alternative, the Service would continue to implement the MBTA consistent with the direction given in M-Opinion 37050, which defines the scope of the MBTA to exclude incidental take. A legal opinion of the Department of the Interior does not provide the public or other federal departments and agencies with the long-term certainty of a codified regulation and any legal certainty established by that Opinion is now further reduced by its vacatur.

Under the No Action Alternative, the Service would still enforce the MBTA for prohibited and unauthorized actions directed at migratory birds and provide technical assistance to industry, the public, and partners seeking to reduce impacts to migratory birds voluntarily or to comply with other federal, State, local, or tribal laws and regulations. Technical assistance activities include working with industry sectors and federal agencies to develop recommendations that identify best practices or technologies that can be applied to avoid or minimize avian mortality.

2.3 Action Alternatives

The Service is analyzing two action alternatives that would provide the public with greater long-term legal certainty regarding what actions are prohibited under the MBTA. These alternatives provide a reasonable range of alternatives that meet the purpose and need of this action. The two alternatives are discussed below.

2.3.1 Alternative A: Promulgate regulations that define the scope of the MBTA to exclude incidental take (preferred alternative)

Under Alternative A, the Service would promulgate a regulation that defines the scope of the MBTA's prohibitions to apply only to actions directed at migratory birds. Promulgating a regulation defining the scope of the MBTA to exclude incidental take would increase judicial deference owed to that interpretation. We do not expect this alternative to change the current

implementation or enforcement of the MBTA (parties are not currently subject to enforcement for the incidental take of birds).

Promulgating this regulation would be consistent with the M-Opinion's conclusion that the MBTA's prohibitions for misdemeanor violations (as reflected by the Act's language and legislative history) are limited to actions directed at migratory birds, their nests, or their eggs. This is the Service's preferred alternative because it best fulfills the purpose and need for action by reducing both the regulatory burden on the public and the enforcement burden on the Service's law enforcement officers, and provides the public with a clear, binding rule on what does and does not constitute an MBTA misdemeanor violation.

Under this alternative, incidental take of migratory birds would no longer fall under the purview of the MBTA. Therefore, like the No Action Alternative, the Service would continue to enforce the MBTA for unauthorized actions directed at migratory birds, unless authorized under 50 CFR part 21, and provide technical assistance to industry, the public, and partners voluntarily seeking to reduce impacts to migratory birds, or as required to comply with other federal, State, tribal, and local laws and regulations.

Technical assistance activities include working with entities and federal agencies to update current and develop new recommendations that identify best practices or technologies that avoid or minimize incidental take of migratory birds.

2.3.2 Alternative B: Promulgate regulations that define the scope of the MBTA to include incidental take

Under this alternative, the Service would interpret the MBTA to apply to incidental take. Because this interpretation would be inconsistent with the Department's current view of the law, adopting this alternative is dependent on that view changing and again investigating actions that incidentally take birds and enforcing the criminal provisions of the MBTA when appropriate. The Service would promulgate a regulation that defines the scope of the MBTA to prohibit incidental take, which would increase judicial deference owed to that interpretation.

Prior to December 2017, the government viewed any action that directly and foreseeably resulted in the death of a migratory bird as criminal conduct. The Service relied on enforcement discretion to determine when to pursue alleged incidental take violations. Several courts allowed various defenses to this broad authority, including, for example, requiring evidence that the activity proximately caused the take or requiring evidence that the action directly resulted in take rather than indirectly through habitat destruction. In addition, the government, in accord with one particular judicial decision, required reasonable notice when it was not foreseeable that the specific conduct at issue may result in the death of protected birds, except within the jurisdiction of the U.S. Court of Appeals for the Fifth Circuit. The Service did not enforce incidental take of migratory birds within the jurisdiction of the Fifth Circuit because that court held the MBTA does not prohibit incidental take. Promulgating a regulation defining the scope of the MBTA to

include incidental take would increase judicial deference owed to that interpretation and potentially allow the Service to enforce consistently the MBTA in all jurisdictions.

The Service's Office of Law Enforcement would investigate incidental take at a particular site or project if they receive a complaint or have reason to believe that unlawful take occurred. The Service would consider good faith attempts to meet voluntary standards when making enforcement decisions under the MBTA to provide an incentive for potential violators to implement those voluntary measures.

Under the prior interpretation and since the 1970s, the Service's Office of Law Enforcement opened investigations into hundreds of activities or hazards that incidentally killed birds. As an example and to provide recent information relevant to analysis of the alternatives in this EIS, from 2010-2018 (Table 2-1), the majority of investigations involving incidental take of migratory birds were of electrical or oil and gas businesses (about 47 investigations annually representing 81 percent of the annual total). About 4 percent of average annual incidental take investigations were of wind-energy companies.

Table 2 1. Average Annual Number of Incidental Take Investigations (2010-2018)

Industry	Average Number of Cases Per Year
Electric Distribution and Transmission	30.8
Oil and Gas	15.6
Other activities*	8.5
Wind Energy	2.4
Total	57.3

* "Other" includes communication towers, chemical spills, bridgework, artificial lighting, and solar-energy development.

Source: U.S. Fish and Wildlife Service, 2018a

Over the same 9-year period, criminal fines and civil penalties associated with incidental take cases totaled about \$105.8 million² (Table 2-2). In addition to fines, there are also adjudications other than criminal fines and collateral forfeited associated with the cases presented in Table 2-1.

² In the context of a benefit-cost analysis, fines or penalties are treated as a transfer payment and not a benefit or cost.

Table 2 2. Total Migratory Bird Treaty Act Collections and Other Adjudications (2010-2018)

Source	Fines/Collections (millions)
Migratory Bird Treaty Act Collections ^{a, b}	\$105.8
Other Adjudications ^c	\$73.0
9-year Total	\$178.8

^aSource: U.S. Fish and Wildlife Service, 2019a

^bTotal amount includes \$100.1 Million in fines related to the BP Deepwater Horizon Gulf Oil Spill. This is the MBTA-related portion of fines levied against BP and represents a portion of the overall fines imposed for the Deepwater Horizon Gulf Oil Spill. All MBTA-related fines were deposited in the North American Wetland Conservation Fund and used to protect or restore wetland habitat for migratory birds.

^cOther adjudications are costs associated with corrective actions to reduce or eliminate bird take. These typically involve expenditures on practices as outlined in Section 3.13.1. Source: U.S. Fish and Wildlife Service, 2018b.

Fines and other adjudications were used to protect and restore migratory bird habitat and implement corrective actions to reduce or halt incidental take of birds. For example, migratory bird fines from the BP Deepwater Horizon Gulf Oil Spill, leveraged with partner-matched contributions, protected and restored several hundred thousand acres of priority wetland habitat for the conservation of migratory birds and other species as provided by the North American Wetlands Conservation Act.

There would be no regulatory framework to authorize take or official policy on enforcement discretion under this alternative; the Service would simply rely on general law enforcement discretion in determining when to pursue alleged incidental take violations.

In addition to enforcement actions, the Service would work with entities to encourage implementation of best practices with the goal of reducing project-related impacts. Under this approach, an individual or entity can demonstrate they have taken reasonable steps to reduce the take of birds and increase the likelihood that the government would exercise its enforcement discretion and decline to pursue an enforcement action related to any resulting incidental take.

2.4 Alternatives Considered but Not Carried Forward for Further Review

We considered two additional alternatives during the scoping process, but determined not to carry them forward for further analysis because they do not meet the purpose and need for the proposed action.

2.4.1 Develop a general-permit framework to regulate incidental take

We considered an alternative under which, the Service re-establishes the Department's prior interpretation that the MBTA prohibits incidental take and promulgates a regulation defining that position, and subsequently establishes a regulatory general-permit framework. Under this framework, the Service could create general permits that provide legal coverage for a variety of activities that commonly take migratory birds incidentally. This general-permit system could take many forms, but one possibility would be to use a risk-management approach that identifies

specific hazards associated with particular activities and establishes best practices as permit conditions to reduce or avoid those hazards. A general-permit framework could require a nominal application fee and potentially an in-lieu fee to compensate for any remaining take after implementation of avoidance and minimization measures. Any incidental take occurring under a general permit would be authorized and not subject to enforcement. The Service would continue to use enforcement discretion for activities not covered by a general permit and large-scale, incidental-take incidents, such as oil spills.

The Service eliminated this alternative from further review at this time because developing a general-permit system would be a complex process and better suited to analysis in a separate subsequent proposal if we were to choose Alternative B below. This alternative goes beyond the current purpose and need of simply providing regulatory certainty regarding the Service's interpretation of the MBTA as it relates to incidental take. For these reasons, it would be premature to discuss this alternative in detail under this proposed action. Thoroughly evaluating this alternative would instead require a separate detailed process to define adequately the parameters of such a permit system. Developing a general permit system would likely require the following at a minimum: determining reasonable and adequate conservation measures for different industries and activities that effectively reduce the impacts of the actions of private parties and government entities on over 1,000 bird species, whether a separate rulemaking would be required for each individual general permit, and how to authorize actions that do not fit within a general-permit category.

2.4.2 Develop an enforcement system to address gross negligence

We also considered an alternative where the Service promulgates a regulation defining the MBTA to prohibit incidental take of migratory birds and develops an enforcement policy requiring gross negligence to establish a misdemeanor violation of the MBTA for incidental take. Criminal statutes generally require proof that the accused acted with a specific mental state (or *mens rea*). Gross negligence is a specific mental state generally defined as carelessness or reckless disregard of the consequences of an action, especially when a reasonable person should have anticipated and guarded against it. Establishing a gross negligence requirement for a misdemeanor violation would allow the Service to focus its law enforcement resources on activities known to take birds incidentally that do not implement reasonable best practices known to avoid or minimize that take.

The Service eliminated this alternative from further review because it fails to meet the purpose and need of this proposal. A significant majority of federal courts have interpreted the MBTA's misdemeanor provision to be a strict liability offense, meaning that no mental state is required to prove a violation has occurred. This alternative would have established a gross negligence mental state requirement before the Service could enforce the statute's misdemeanor provision. Thus, it would be inconsistent with most case law and, therefore, would likely reduce legal certainty for the public.

3. Affected Environment

3.1 Introduction

The affected environment, or existing condition, is described here to provide an environmental baseline for the analysis of alternatives described in Chapter 2. Accordingly, the following description of the affected environment includes elements of the environment where the proposed alternatives could have an effect, whether directly, indirectly, or cumulatively.

3.2 Description of Project Area

This analysis of the MBTA and its implementation encompasses the entire United States and its territories, and also includes transboundary effects. U.S. territories are located on the North American Continent and in the Atlantic and Pacific Oceans.

3.3 Environmental Resources Not Analyzed

The resources and issues analyzed in this EIS are focused on environmental resources where the proposed action and the action alternatives could have a known effect. Therefore, this EIS does not address several resources because either (1) there is insufficient information to determine whether the alternatives have a potential effect on the resource, but we do not expect there to be an effect, or (2) there is sufficient information for us to determine the alternatives would not affect those resources. The Service identified resources to analyze in this EIS based on issues raised during internal review, federal agency review, and public scoping. The alternatives considered in this EIS represent different approaches to meeting the stated purpose and need. For these reasons, the Service has determined that analysis of the impacts of the alternatives on the following environmental resources would not be meaningful:

- Air quality
- Water resources
- Geology and soils
- Floodplains
- Visual resources
- Land ownership and use

3.4 Environmental Resources of Concern

3.4.1 Migratory Birds

There are 1,093 migratory bird species protected under the MBTA in the United States and its territories (a list of these species in alphabetical and taxonomic order can be found at 50 CFR 10.13). Migratory birds comprise many different guilds (groups of species that use the same resources) that each have different requirements, use different types of habitat, and face a particular suite of threats that can potentially limit or reduce their populations (Ehrlich et al.

1988). For analyses in this EIS, the focus is on four bird guilds that use the six primary habitats identified in the following subsection and also described further in Section 3.12 (Other Biological Resources). These guilds consist of waterfowl (e.g., ducks, geese, swans), waterbirds (e.g., herons, rails, gulls, terns, cormorants), shorebirds (e.g., sandpipers, godwits, plovers, oystercatchers) and landbirds (a large grouping that includes hummingbirds, flycatchers, warblers, sparrows, birds of prey, and many others).

3.4.2 Status of Bird Population Trends

Birds are indicators of environmental health and many species are relatively easy to study (North American Bird Conservation Initiative [NABCI] 2019, Rosenberg et al. 2019). By examining population trends of species and whether they increase, decrease, or remain stable in specific habitats, scientists can determine which habitats and associated avian species require greater conservation focus.

Since 1966, reliable bird-monitoring data have become available that can indicate trends in bird populations for many, but not all, of the species protected by the MBTA (NABCI 2009). It has been documented that many bird species and bird populations as a whole are declining across the nation, and in 2017 there were an estimated 3 billion fewer birds on the landscape in North America, representing a 29% decrease in overall bird numbers when compared to 1970 (NABCI 2019, Rosenberg et al. 2019). The State of the Birds reports published by NABCI discuss the continent-scale decline of birds relating to human activities and changes in the quality of the environment (NABCI 2009, 2019). The reports have noted that some bird species will adapt to changing environmental conditions and succeed, some will struggle and decline, and some may go extinct without appropriate intervention (NABCI 2009, NABCI 2019). This loss occurred despite the MBTA's application to incidental take before 2017. There is no analysis or data describing the amount or percentage of this loss that is attributable to enforcement of incidental take under the MBTA.

The MBTA and its regulations apply to the entire U.S., including U.S. territories. Across these areas, birds use many habitat types. For this EIS, six primary habitat types (Heinz Center 2008; NABCI 2009) in the continental U.S. are used to describe land cover associated with avian species and the hazards that occur within those land covers: arid lands, coasts, eastern forests, grasslands, wetlands, and western forests. While these six primary habitats are the principal focus in summarizing the status of bird population trends in the U.S., guilds of birds in other habitat types are also discussed in 3.4.2.1. Figure 3-1 and Figure 3-2 show the six primary habitats within the continental U.S. These maps do not show land cover for the U.S. Virgin Islands, Puerto Rico, or Hawaii and other territories in the Pacific Ocean.

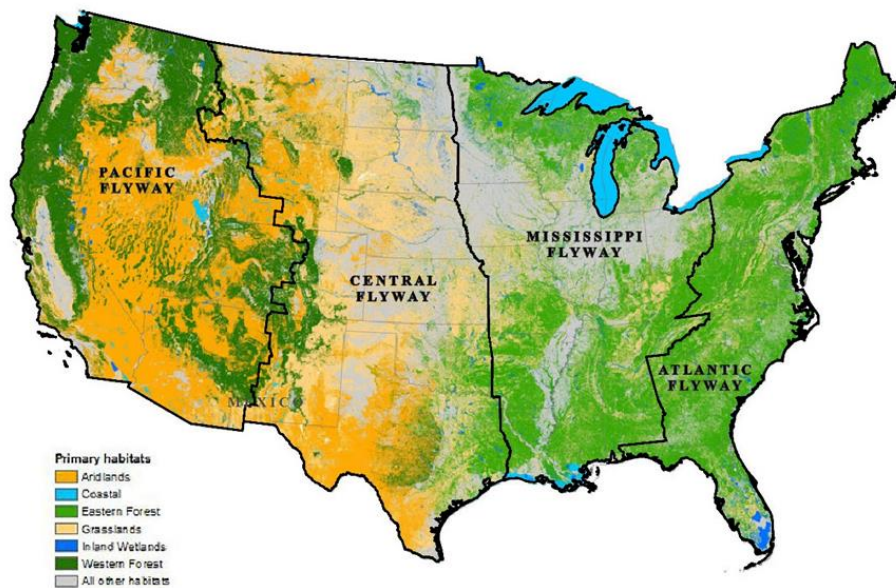


Figure 3- 1 Six Primary Habitats and the Four Migratory Flyways within the Contiguous United States (see Figure 3.2 for Alaska).

Source: U.S. Geological Survey, Gap Analysis Program (GAP). 2011. National GAP Land Cover dataset, Version 2.



Figure 3- 2. Primary Habitats and Pacific Flyway within Alaska

Source: U.S. Geological Survey, Gap Analysis Program (GAP). 2011. National GAP Land Cover dataset, Version 2.

These primary habitats lie within the four administrative migratory flyways, which are managed by the Service and its partners (USFWS 2016b) and the Service's regional offices (see Management of Migratory Birds below). Although birds do not adhere to administrative boundaries, these migratory flyways are based largely on routes that migrating bird species are known to follow as they migrate between nesting and wintering areas (USFWS 2016b).

The State of the Birds reports use obligate bird species (those that use a single habitat for breeding) that have been monitored for long-term periods as indicators of habitat health within the six primary habitats mentioned above (NABCI 2014). Table 3-1 lists the six primary habitats and population trends of obligate species that occur within them. Obligate species in grasslands have shown the greatest overall decline of 53 percent from 1970-2017 (Rosenberg et al. 2019). Two primary factors affecting this decline include habitat loss and toxic pesticide use (Rosenberg et al. 2019).

Table 3 1. Migratory Bird Species Trajectories 1970-2017 (Rosenberg et al. 2019)

Guild	Decreasing Trajectory
Breeding Habitat Groups	
Aridlands	35
Coasts	19
Eastern Forest	39
Grassland Species	23
Wetland	45
Western Forest	43
Migration Form Groups	
Migrant Species	243

Permanent Resident Species	54
Bird Guild	
Waterfowl	18
Waterbird	40
Shorebird	30
Landbird	209

Eastern forest indicator species have declined by approximately 17 percent and western forest indicator species have declined 29 percent (Rosenberg et al. 2019). Threats to these species are associated primarily with urban development (NABCI 2014). Conservation efforts include forest restoration on federal, State, and privately owned land and following beneficial practices that can mitigate impacts to birds (NABCI 2014, Association of Fish and Wildlife Agencies [AFWA] 2019).

Wetland indicator species have increased 13 percent overall from 1970-2017 (Rosenberg et al. 2019). Within the four migratory flyways, conservation efforts have protected more than 10 million acres of wetland habitats on National Wildlife Refuges, State and local wildlife management areas, and private lands through Wetland Reserve Program projects. Even with conservation efforts, however, more than 17 million acres of wetlands have been lost since the 1950s. While wetland indicator species as a whole are increasing, 47% of the species studied are in decline (Rosenberg et al. 2019).

Coastal indicator species declined 15 percent from 1970-2017 (Rosenberg et al. 2019). Birds in this habitat are affected by coastline development, habitat loss, sea level rise, and disturbance resulting from recreational use (NABCI 2014). Seawalls established along coastlines provide protection to humans when major storms occur but reduce nesting habitat for beach and tidal-marsh nesting species (NABCI 2014). During high waters, the seawalls hold back the water, causing floodplain-nesting birds and their chicks to drown. Coastal wetland restoration projects are showing that natural habitats offer the best resilience to rising waters. For example, a preserve in New Jersey acted as a natural buffer during Superstorm Sandy in 2012, protecting piping plovers (*Charadrius melodus*) and other at-risk species by holding back the sea surge and floodwaters (NABCI 2014).

3.4.2.1 Other Habitats

Seabirds (e.g., auklets, puffins, murres, sulids, tubenoses) are marine indicator species and difficult to monitor well in open ocean environments, where they typically occur in the

nonbreeding season. However, these efforts estimate a 31% decline of this species group from 1970-2017 (Rosenberg et al. 2019). Seabirds are among the most threatened groups of birds in the world, with their global conservation status deteriorating faster than it is for other groups of birds. Several species in this guild are federally listed as threatened and endangered species, such as Marbled (*Brachyramphus marmoratus*) and Kittlitz's murrelets (*B. brevirostris*), Short-tailed Albatross (*Phoebastria albatrus*), Band-rumped Storm-petrel (*Hydrobates castro*), and the Bermuda Petrel (*Pterodroma cahow*), among others.

Factors that affect this guild include both natural and anthropogenic sources, including incidental take. Seabirds are sensitive to reductions in prey and forage due to overfishing and ocean pollution (e.g., plastics). Seabirds are taken as the incidental by-catch of multiple fisheries (e.g., long-line, trawl net, gill net, etc.). Seabirds are affected by offshore energy development leading to collisions with platforms and turbines and may shift distributions due to gas and mineral exploration. Oil spills can directly affect species through contact with oil and/or oil impacts on prey and other critical resources.

Island indicator species are the most restricted species due to their limited habitats, and those restrictions affect their survival. For example, one-third of bird species listed as threatened or endangered under the ESA occur in Hawaii (NABCI 2014). On U.S. island territories, introduced predators, habitat degradation, human disturbance, grazing pressure of domestic ungulates, and climate change (i.e., rising sea levels and warming temperatures allowing disease-carrying mosquitoes to invade higher elevation refugia (NABCI 2014), threaten native and endemic species.

3.5 Hazards Affecting Birds

Annually, bird mortality is caused by natural and anthropogenic (i.e., human-induced) sources that contribute to the continental-scale declines in bird populations discussed above. Natural sources of mortality include adverse weather, predation, starvation, and diseases, such as botulism and avian cholera. While natural causes of bird mortality are identified and thought to be widespread, they are not well understood, quantified, or the result of incidental take. Therefore, they are not considered further in this EIS. We also do not address the impact of invasive free-roaming cats, as we do not consider this to be incidental take.

Anthropogenic sources of bird mortality can cause either immediate injury or death or delayed negative effects to health or productivity, such as by habitat modification. In some instances, anthropogenic bird mortality is intentional, such as hunting waterfowl. In most cases, however, it is unintentional and incidental to the activity that caused the mortality, such as a bird fatally colliding with a building. For this EIS, the focus is on immediate bird mortality resulting from direct anthropogenic threats on the landscape, rather than mortality caused by secondary negative effects, such as habitat change. Annually, millions of birds, in every type of habitat, are killed incidentally by direct anthropogenic sources (Longcore et al. 2013, Loss et al. 2015).

3.6 Purposeful Take

Purposeful take, such as hunting of gamebirds, can affect population numbers greatly if conducted in an unsustainable and exploitive manner. However, the U.S. has tightly regulated hunting seasons and utilizes a combination of funds from hunting licenses, federal appropriations, and other sources for restoring, maintaining, and monitoring healthy populations of hunted species. Funds are used for wildlife research, species management, and habitat acquisition and these approaches have been beneficial to many non-hunted species reliant on the same habitats as gamebirds (USFWS 2015). Federal permits under the authorities of the MBTA and the Bald and Golden Eagle Protection Act authorize other forms of take for the purposes of scientific collection, religious practices, prevention of depredation, among other purposes.

3.6.1 Gamebird hunting

The Service is responsible for monitoring the annual sport harvest of migratory birds in the U.S. using the Migratory Bird Hunter Survey (MBHS, Raftovich et al. 2019). This survey is based on a sample of approximately 75,000 hunters who have registered to hunt migratory birds in the 49-State Hunter Information Program (HIP). From 2015-2019, the average annual sport harvest of waterfowl (ducks and geese) estimated from the MBHS has been 14,807,000, and the average webless species (combined dove, pigeon, woodcock, snipe, coot, gallinule, and crane) harvest has been 14,776,000.

3.6.2 Permitted take

Under authority of the MBTA, the Service manages regulations and annually issues permits for specific activities directed at migratory birds, including those that pose a threat to human health and safety, are damaging private property or agricultural operations, or negatively affect the recovery of imperiled species. From 2015-2019, on average, the Service issued permits authorizing the take of 13,844 eggs/year, 452,555 nests/year, and 784,840 birds/year in the U.S.

The Service also issues permits for scientific collecting and other purposes that are exceptions to the standard permit types, such as for employees of Service regional and field office and State wildlife agencies to conduct their official duties. From 2015-2019 such permits, on average, authorized the take of 78,579 birds/year in the U.S.

3.6.3 Illegal take

Migratory birds are illegally shot, poisoned, and killed by other means. The Service does not have comprehensive information on the extent of illegal take; however, it is likely insignificant for most species compared to authorized and incidental take and other forms of mortality. For a limited number of species, illegal take may impact local and regional populations. For example, the Service estimates that approximately 1,000 golden eagles are illegally shot each year in the U.S., roughly 17% of all golden eagle mortality (USFWS 2016a).

3.7 Incidental Take

Incidental take (take that results from, but is not the purpose of, an activity) is caused by anthropogenic hazards to migratory birds in the environment, such as buildings and power lines. These hazards can then result in stressors to migratory birds, such as the collision of birds with buildings and power lines. For example, birds vulnerable to collisions with communication towers include about 350 species of neotropical migratory-songbirds that breed in North America in the spring and summer and migrate to the southern United States, the Caribbean, or Latin America during the fall and winter. Many of these species generally migrate at night and appear to be most susceptible to collisions with lit towers on foggy, misty, low-cloud-ceiling nights (Kerlinger et al. 2010).

We based these mortality estimates on the best available information represented by studies developed at different times. Therefore, the range in length of time since the estimate for each hazard was calculated varies. There are other hazards and stressors for which estimates of incidental take have not been quantified, or are too complex or difficult to quantify, and those are not addressed in this analysis.

Sources of incidental take that have been studied and quantified are outlined in Table 3.2 and include annual estimates of bird mortality. For some hazards, best practices have been developed to reduce the impacts of the potential stressor. These are outlined below in Section 3.13.1, along with the extent to which they are known to reduce negative impacts of the stressor. Best practices are generally provided to entities through technical assistance, but different industries have also developed their own best practices. The Service uses a stressor-management approach to provide technical assistance and guidance. Specific industry guidance has been developed on an as-needed basis (i.e., industries that required increased project review and consultation). This approach advised that proponents assess their project activities to identify project-related stressors, and implement voluntary best practices that avoid the stressor by managing the hazard producing the stressor (e.g., locating the project outside of known high-risk areas, or minimizing the production of the stressor or exposure of birds to the identified stressors). Available technical assistance includes fact sheets and job aids for understanding responsibilities, recommendations for properly assessing project-related hazards, and voluntary best practices that avoid and minimize avian mortality and stressors on bird resources.

The Service and other entities continue to develop online tools in response to new industry hazards and project needs. Tools such as the Avian Knowledge Network (<http://www.birds.cornell.edu/is/research/itr.html>) provide access to data and decision-support tools that can be used to make more informed decisions about potential project hazards on migratory birds or their habitats. The online Information for Planning and Consultation (IPaC) tool (<https://ecos.fws.gov/ipac/>) delivers site- and project-specific information critical to identifying resources at risk and recommendations to reduce potential impacts.

The Service has worked with the following industries to develop and implement voluntary guidance: solar; building glass, and lighting; communication towers; coal-bed methane; commercial fisheries; electric utility lines; fluid mineral practices; mining claim markers; transportation; urban vegetation management; and wind energy.

The objective of the mitigation framework used to reduce incidental take of birds under current guidance and agreements is to:

- Avoid the creation of a stressor on birds altogether by not taking a certain action, or locating the project in an alternative location
- Minimize the exposure of birds and their resources to project-related stressors by limiting the degree or magnitude of the action and its implementation
- Rectify the effects of an impact by repairing, rehabilitating, or restoring the affected environment
- Reduce or eliminate the stressor over time, or
- Compensate for the impact by replacing or providing substitute resources or environments.

Table 3. 2. Annual Mortality Estimates for Stressors and Hazards Affecting Migratory Birds (Longcore et al. 2012, Loss et al. 014, Loss et al. 2015)

Hazard/Stressor	Minimum Estimate	Maximum Estimate	Median/ Average Estimated
Building glass/Collisions	365,000,000	988,000,000	599,000,000
Vehicles/Collisions	89,000,000	340,000,000	214,500,000
Poison/Chemicals			72,000,000
Electrical lines/Collisions	8,000,000	57,300,000	25,500,000
Communication towers/Collisions			6,600,000
Power Pole Electrocution	900,000	11,600,000	5,600,000
Oil Pits	500,000	1,000,000	750,000
Open Pipes	100,000	1,000,000	550,000
Wind turbines/Collisions	140,438	327,586	234,012

Total	463,540,438	1,398,227,586	924,184,012
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3.8 Birds and Humans

In addition to being affected by human activities, migratory birds can affect humans in both beneficial and detrimental ways. Sections 3.9 and 3.10 discusses the benefits derived from migratory birds related to cultural values and practices and socioeconomics and ecosystem services. Detrimental effects from migratory birds are discussed in section 3.11.

3.8.1 Native American, Alaska Native, Native Hawaiian, and Pacific Islander Cultural Resources

Many species of birds are culturally significant and important for indigenous cultures. Birds figure prominently in religious practices, oral history, identity, language, and subsistence uses, and are often understood through complex systems of traditional ecological knowledge. Native American Tribes, Alaska Natives, and other indigenous groups continue to use many bird species for subsistence as well as cultural and religious purposes. Religious practices of Native Americans, Alaska Natives, and Native Hawaiians are protected by the American Indian Religious Freedom Act of 1978 (Public Law 95-341, 42 U.S.C. 1996), and many tribes have subsistence and accustomed rights to purposefully take birds through treaty rights.

Bird feathers and parts figure strongly in some indigenous religious traditions and in recent decades, an increasing number of federally recognized tribes have accessed feathers through federal repositories, which have remains of birds, and Native American-operated aviaries that have live eagles. In the Service's Upper and Lower Colorado Basin and Arkansas-Rio Grande-Texas-Gulf Regions, there are six of these aviaries, located in Arizona, New Mexico, and Oklahoma.

All federally recognized Native American Tribes, Alaska Native communities, Native Hawaiian organizations, and Pacific Islander communities, and the areas they are associated with, are part of the possible affected environment and analysis area. Figure 3-3 shows the contemporary tribal community locations. However, modern tribal boundaries do not necessarily correspond with ancestral domains, areas of contemporary use as subsistence areas (gathering and collecting areas), associated cultural sites, Traditional Cultural Properties, and Sacred Sites. For example, the majority of Tribes in Oklahoma are displaced from other States, primarily eastern and Midwestern States. Indian Trust Assets and Indian Claim areas should also be considered because they relate to both cultural and biological resources.

Federally sponsored programs and projects require review pursuant to Sections 106 and 110 of the National Historic Preservation Act (NHPA). 36 CFR Part 800 of the NHPA requires federal agencies (and their designees, permittees, licensees, or grantees) to initiate consultation with the State Historic Preservation Officer as part of the Section 106 review process on actions that may affect cultural resources. On tribal lands with a Tribal Historic Preservation Officer (THPO), the THPO is consulted where appropriate. In addition, Executive Order 13175, consistent with our

general trust responsibility to federally recognized tribes, requires that federal agencies consult with tribes on “policies that have tribal implications.” This requirement is commonly referred to as government-to-government consultation. Outreach conducted to federally recognized Native American Tribes is described in Section 1.5.2. If we receive a response from a tribe requesting consultation, the Service will initiate the consultation process through the Service’s regional offices.

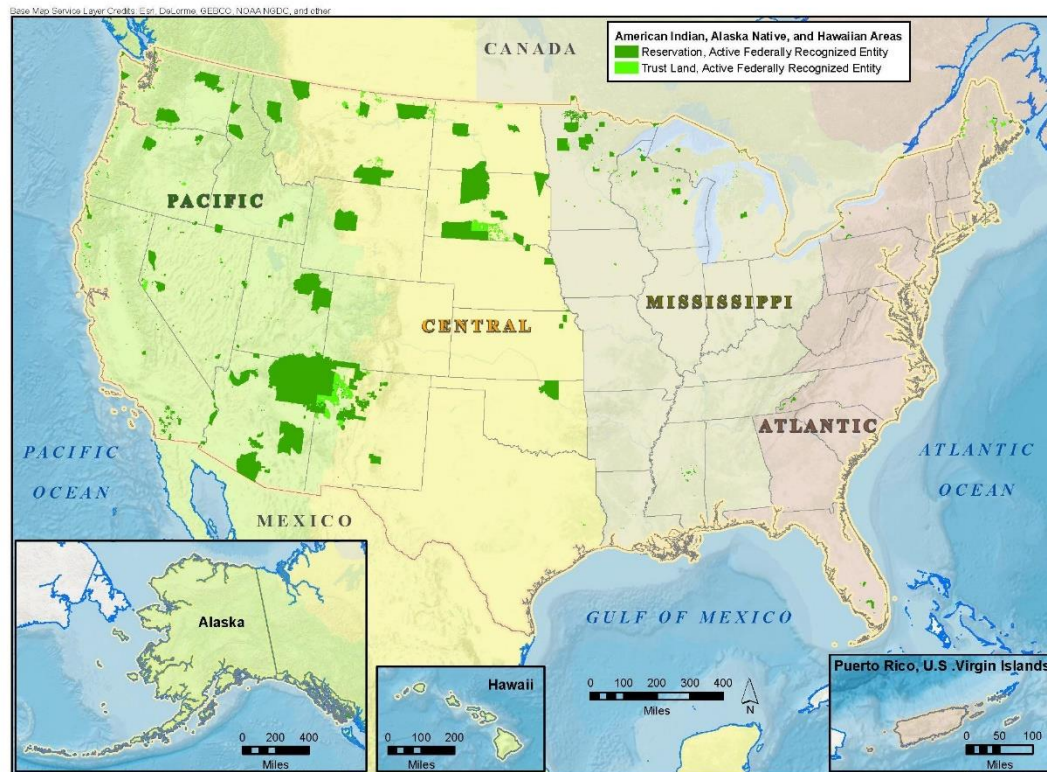


Figure 3- 3. Approximate Locations of Federally Recognized Tribal Reservations, Alaska Native, and Native Hawaiian Communities in Relationship to the Four Administrative Flyways.

3.8.2 Ecosystem Services and Socioeconomics

Ecosystem services provided by migratory birds support human survival and quality of life (e.g., pest control, recreation) and, in several cases, are a source of economic value to humans (Millennium Ecosystem Assessment 2005). Ecosystem services that are a benefit to humans are derived from the attributes of migratory birds (e.g., diversity, abundance, distribution) and the myriad ecological processes of which they are a part (e.g., complex food webs, nutrient cycling). There are direct ecosystem services clearly linked to human benefits and indirect ecosystem services of which migratory birds play a role but for which humans do not definitively value their role.

Below are several examples in which migratory birds provide ecosystem services to humans.

Cultural Uses—Birds in general have a high level of importance across many cultures (Kresch 2011). Among the important cultural uses for migratory birds in the United States are the use of feathers as sources of power and for adornment, and the use of bird bones for making beads (DeMeo 1995; Hill 2016).

Valuing cultural benefits in monetary terms is problematic and may not accurately reflect community values (Burgess et al. 1988; Clark et al. 2000; Ervin et al. 2014). Accordingly, this analysis does not assess the economic value of the cultural benefits birds provide. However, the evidence of the significance these benefits have for native communities is suggested by the policies and practices of the Department of the Interior, which issued the Morton policy in 1975, recognizing the cultural importance of bird feathers to native tribes (Morton 1975). The Morton policy created mechanisms for providing tribes access to feathers from birds protected by the ESA and the MBTA. A Department of Justice Memorandum subsequently affirmed the Morton policy and the cultural importance of federally protected birds to tribes (USAG 2012). The memorandum also summarizes the ongoing significance of birds, and especially eagles, to native tribes:

“The Department of Justice recognizes that many Indian Tribes and tribal members use, and traditionally have used, federally protected birds, bird feathers, or other bird parts for their tribal cultural and religious expression. Indeed, the eagle plays a unique and important role in the religious and cultural life of many Indian Tribes. And in light of the important government-to-government relationship that the United States has with federally recognized Tribes, the United States has a strong interest in accommodating the interests of these Tribes by protecting the ability of their members to meaningfully practice their religions and preserve their cultures.”

Food Provisioning—The hunting of migratory birds provides food for populations in many parts of the United States and is particularly important for indigenous populations in northern climes (Green and Elmberg 2014). Historically and in present day, indigenous populations in Alaska have relied on the return of migratory waterfowl to supplement their diets. The return of migratory waterfowl in the spring is also part of the cultural heritage of indigenous peoples, when celebrations center around waterfowl harvest.

Recreation (bird watching, hunting)—The recreational value provided by migratory birds is most clearly captured by the time and money that people invest in bird watching and hunting. These two activities provide considerable quality-of-life benefits for those who pursue them (Carver 2013). The 2016 National Survey of Fishing, Hunting, and Wildlife Associated Recreation Report estimated there were 2.4 million migratory bird hunters in the United States who accounted for 16 million migratory bird-hunting days and spent an estimated \$2.3 billion on trips and equipment (U.S. Department of the Interior et al. 2016). These numbers also do not include the more than \$1 billion generated by Migratory Bird Hunting and Conservation Stamps.

In that same year, there were an estimated 45 million bird watchers over the age of 16 in the United States, which is about 18 percent of the population (Carver 2019). These bird watchers spent an estimated \$10.3 billion on trips associated with bird-watching activities (Carver 2019). In addition to trip expenditures, it is estimated that equipment-related expenditures in 2016 totaled approximately \$29 billion (Carver 2019). The total combined expenditures was approximately \$39 billion in 2016 (Carver 2019). The report estimates these expenditures total approximately \$96 billion in direct, indirect, and induced effects on the economy (Carver 2019). Direct effects are the initial impact of the expenditure (e.g. the purchase of goods and services, totaling approximately \$39 billion as described above), indirect effects are the secondary impacts of the expenditure (e.g. the purchase of the binoculars by the retailer from the manufacturer), and the combination of direct and indirect effects lead to induced effects, where, for example, expenditures provide the employees of retailers and manufacturers income that is spent on other goods (Carver 2019). Bird watching activities are estimated to have produced 782,000 jobs that provided an employment income of \$35 billion. Finally, the report estimates that bird watching activities generated over \$16 billion in State and federal taxes (Carver 2019). Additionally, 57 million people in the country engage in backyard bird-feeding, spending over \$4 billion annually on bird food (Dayer et al 2019) and an unknown amount on related goods such as field guides and optical equipment.

Pest Control—Birds provide pest control primarily for insects, but also to a lesser extent for rodents and small mammals (Whelan et al. 2015). Over 50 percent of bird species eat primarily insects, while nearly 75 percent eat insects at least occasionally (Wenny et al. 2011). The reduction of insect pests by birds has been shown to increase fitness, population size, and growth rate for the plants that were being consumed by pests, specifically increasing crop yields for food or fiber. This increase in production can directly increase profits. Where birds provide pest control there is less need for pesticide use, which provides both potential cost savings for the agricultural producer as well as health benefits for society and the environment as a whole.

Illustrative numbers for assessing the economic benefit from pest management were provided by coffee growers in Jamaica. Using experiments where birds were intentionally excluded from an area, researchers determined that having birds on site increased yields and improved production values by \$75 per hectare on high-elevation farms and up to \$310 on mid-elevation farms (approximately 12% of crop value for mid-elevation farms), when the per capita gross national income was only \$3400 (Kellermann et al. 2008 and Johnson et al. 2010). Another example is control of the spruce budworm (*Choristoneura* sp.) by woodpeckers. The budworm is projected to cause \$1 billion annually in lost harvest, but studies have shown that woodpeckers are effective in noticeably curbing these losses (Wenny et al. 2011; Whelan et al. 2015). Quantified estimates of the economic benefits of pest control provided by birds across all agricultural and forestry sectors are not available at this time but may be significant. Some of these benefits may be reduced by bird species that depredate on agricultural products. These benefits were recognized by the authors of the 1916 Migratory Bird Treaty with Great Britain on behalf of Canada, and the MBTA, which included insectivorous birds as protected bird species because of their benefits to agriculture.

Seed Dispersal/Pollination—As with pest regulation, there are no available studies that have quantified the total value of seed dispersal by migratory birds. Approximately 33 percent of bird species disperse seeds, and the literature suggests that birds disperse seeds for over 80,000 species of seed-producing plants (Whelan et al. 2015). In addition, birds typically provide pollination for 5 percent of a region's flora and up to 10 percent on islands (Whelan et al. 2008). This contribution to primary productivity is considerable. The ripple effect from this contribution potentially touches nearly every ecosystem service, including climate regulation, oxygen production, food production, erosion control, water-quantity control, air-quality regulation, and many others (Green et al. 2016).

A case study that provides a good example of the value that seed dispersal can provide is the scatter-hoarding by the Clark's nutcracker (*Nucifraga columbiana*) of whitebark pine seeds (*Pinus albicaulis*). Whitebark pine is in severe decline, but Clark's nutcrackers are estimated to benefit the recovery efforts of the U.S. Forest Service by about \$800 to \$1,000 per acre. That equates to over \$11 billion in ecosystem service value across the entirety of the whitebark pine range from a single bird species (Wenny et al. 2011).

Scavenging/Disease regulation—Vultures are the best-known bird scavenger, but many other bird species also fill this important role of removing carrion that can otherwise lead to the spread of disease. Although few studies quantify this benefit, there are examples in the literature of the negative consequences of losing scavenger populations. For example, the decline of the griffon vulture (*Gyps fulvus*) in South Asia led to an increase in rodent and feral dog populations, which in turn led to increases in rabies outbreaks. The estimated cost from the population crash of the vultures was \$34 billion from 1993 to 2006 (Markandya et al. 2008; Wenny et al. 2011). Quantified estimates of the economic benefits of avian scavengers across the U.S. are not available at this time.

Insectivorous birds, mentioned earlier, can also help limit the spread of mosquito-borne diseases that affect humans, such as Eastern equine encephalitis and the Zika virus. This natural source of insect control can also have the benefit of reducing the need to use pesticides in the environment.

Nutrient Cycling—Nutrient cycling is the transfer of energy and matter among living organisms and non-living components of the environment. Coastal, colony nesting birds are notably effective at nutrient cycling from the resultant levels of guano by the birds, but birds contribute to nutrient cycling in all habitats (Whelan et al. 2015). Guano has historically been much valued as a source of fertilizer. Modern fertilizers, which were made possible in the early 1900s by the invention of a method for synthesizing nitrogen from air, have reduced the demand for guano. However, there is still a market for guano, particularly for organic farming (Office for Science & Society 2013). Undisturbed, naturally occurring guano is a source of nutrients for primary production in local ecosystems.

3.8.3 Migratory Bird/Human Conflicts

Migratory birds can produce negative social or economic outcomes, such as their role in the spreading of disease or agricultural damage, or cause damage to infrastructure. For example, certain flocking species can cause irreparable harm to agricultural crops. Collisions between vehicles and birds affect tens of millions of birds every year (Loss et al. 2014) while also damaging vehicles and sometimes injuring or even killing vehicle occupants. There is uncertainty and disagreement about the role and extent of migratory birds in producing many of these detrimental impacts. The extent of some of the more prominent detrimental impacts is discussed, and overall estimates of the economic impacts are included where available.

Crop Consumption—Birds consume crops; however, surveys and anecdotal estimates of crop damage from birds tend to overestimate the extent of damage that occurs based on a study conducted in California (Whelan et al. 2015, Gebhardt et al. 2011). One study of survey estimates for loss of corn crop in Quebec due to bird activities determined that the surveys overestimated the actual crop loss from birds by over 1,000 times (Weatherhead et al. 1982, Whelan et al. 2015). Nonetheless, the economic impacts of crop loss from birds is an ongoing concern, particularly for fruit crops. A 2013 study suggests that Michigan fruit farmers lose \$38 million annually to bird-induced crop damage (USDA 2014). Surveyed fruit crop farmers across 5 States who grow 4 different fruit crops and determined that bird damage to crops ranged from \$104-7267 per hectare with an estimated \$189 million in damage across the 5 States and 4 fruit crops (Anderson et al. 2013).

Impacts on Aquaculture—The aquaculture industry estimates that the impacts from migratory birds costs the industry approximately \$25 million annually (Craig et al. 2015). These costs are associated with lost product due to bird predation, loss of feed, and the management and hazing costs to protect from bird predation (Craig et al. 2015).

Impacts on Aviation—Collisions between birds and aircraft are a major concern. From 1990 to 2011, along with the increase in airline traffic and incident reporting, aviation strikes with wildlife increased five-fold, from 1,804 in 1990 to 10,083 in 2011, with 97.1% of strikes caused by birds, though from 2000 to 2011 there was a 29% decrease in damaging strikes from wildlife (Federal Aviation Administration and USDA 2012). As a result, public and private airports and airfields incurs costs every year associated with damage from collisions with birds and the costs of wildlife hazard management. While difficult to compile the worldwide annual costs associated with hazards wildlife pose to aviation, it is estimated to exceed \$1.28 billion (Allan and Oroz 2001).

Spreading Disease—Birds have been implicated in some instances as being a source for the spread of disease; for example, the H5N1 virus, commonly referred to as the avian flu. However, this potential detrimental impact is poorly understood, and may often be driven by non-natural conditions and human influence, such as unsanitary cohabitation with birds that can lead to zoonosis, the transfer of infectious disease from animals to humans (Whelan et al. 2015).

3.9 Other Biological Resources

3.9.1 Vegetation/Plant Communities

Encompassing the entire U.S. and its territories, the analysis area for this EIS includes many different vegetation types and plant communities, ranging from Arctic tundra to midcontinent grasslands to old-growth coniferous forests. To categorize the various vegetation types, habitat classifications identified in the State of the Bird reports are used (NABCI 2009, 2013). The 2009 State of the Birds report also identified major threats to birds associated with various habitat types (NABCI 2009)³. Many of these threats also apply to vegetation and plant communities in the areas where these habitat types occur. Below are the habitat types along with the threats that have been identified occurring in each:

- Aridlands—deserts, sagebrush, chaparral, and other habitats characterized by low precipitation and a highly variable climate
 - Threats: Habitat loss from urban development; habitat degradation from overgrazing and invasive plants; and climate change
- Grasslands—prairie, pasturelands, and similar
 - Threats: Agricultural practices (overgrazing, ill-timed or too-frequent burning or mowing); conversion from natural landscapes to cropland and/or energy production facilities; and climate change
- Wetlands—open freshwater and saltwater wetlands with vegetation rooted in the aquatic bed or floating on the water's surface
 - Threats: Excessive chemicals, nutrients, and sediments from unsustainable agricultural practices; hydrologic modifications (e.g., stream channelization; construction of levees, dikes, and dams; placement of fill); conversion to cropland and/or energy production facilities; and climate change
- Forests—tropical, subtropical, temperate, and boreal forests; woodlands; and tree savannahs with coniferous or broadleaf trees
 - Threats: Unsustainable logging, intense wildfires following decades of fire suppression; over-browsing by deer; tree pests; and diseases exacerbated by a changing climate
- Coasts—marine shorelines and large inland waterbodies
 - Threats: Unsustainable housing development; pollution; and increased sea temperatures and sea level rise caused by climate change
- Islands—habitats in Hawaii and U.S. overseas territories (including Puerto Rico, Guam, Northern Marianas, U.S. Virgin Islands, and American Samoa), as well as offshore islands and rocks in the continental United States

³ The first State of the Birds report was produced in 2009 and established the overall scope and content that has been updated in subsequent years.

- Threats: Invasive plants, wildlife introduced by humans, habitat degradation (e.g., forest clearing for agriculture and urban development), climate change, and sea level rise.

3.9.2 Endangered Species and Birds of Conservation Concern

Endangered Species

Of the 1,093 bird species protected under the MBTA, 102 also receive regulatory protection in at least a portion of their range based on their status as species, subspecies, or distinct population segments listed as threatened or endangered under the ESA. There are also six bird species that are listed domestically under the ESA but not protected under the MBTA (e.g., Gunnison sage-grouse (*Centrocercus minimus*), and Puerto Rican parrot (*Amazona vittata*)).

Species listed as threatened or endangered under the ESA are protected through a variety of measures. These measures include protection from adverse effects of federal activities; restrictions on taking, transporting, or selling individuals of listed species; development of species recovery plans; and habitat protection. These and related measures contribute to species' survival and assist in achieving the ultimate recovery goals of the ESA: conserving plants, animals, and the ecosystems upon which they depend.

Bird species listed as threatened or endangered under the ESA would continue to receive the full protection of the ESA.

Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates that the Service identify migratory nongame species that have high potential to become candidates for ESA listing without additional conservation measures to protect their populations. This list of species is known as the Birds of Conservation Concern. Of the 1,093 bird species protected by the MBTA, 258, or approximately 24%, are listed in Birds of Conservation Concern 2008 (BCC), including species, subspecies, and populations (USFWS 2008).

Bird taxa considered for the BCC 2020 list include nongame birds, gamebirds without hunting seasons or where harvest is minimal, and subsistence-hunted nongame birds in Alaska.

The BCC list does not necessarily warrant any species for consideration for ESA listing, but instead informs the Service and its conservation partners what species should be a priority for proactive management and conservation actions to ensure their populations are sustained and avoid ESA consideration.

Because the 239 species that appear on the BCC list receive little to no other federal protection aside from the MBTA and are in documented decline, this proposed action has the potential to affect negatively their population sizes and will be further analyzed in Chapter 4.

3.9.3 Overabundant Species

The USFWS maintains a list of migratory bird species protected under the MBTA, Birds of Management Concern (USFWS 2011), that pose management challenges because of documented

or apparent population declines, small or restricted populations, dependence on restricted or vulnerable habitats, or overabundance to the point of causing ecological and economic damage. To manage overabundant species, the USFWS utilizes a combination of measures, such as habitat modification and non-lethal deterrents to regulatory approaches that allow for an increase in intentional take through hunting seasons, depredation permits, depredation orders, control orders, or conservation orders (see section 3.6 above).

Overabundant species are overall experiencing population increases, and while some species may be affected by incidental take, it is not causing noticeable long-term negative effects on their populations.

3.10 Management of Migratory Birds

The Service is the principal federal agency charged with protecting and enhancing the populations and habitats for birds that are protected under the MBTA and that spend all or part of their lives in the United States (USFWS 2014). Other federal agencies also have responsibilities to protect migratory birds under Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds, and through other federal mandates. The Service and its partners, including State, regional, national, and international groups, work together to achieve a biologically based, landscape-oriented approach to migratory bird conservation (USFWS 2014). Management activities include steps to avoid and minimize negative impacts on birds and their habitats.

Migratory bird management in North America is one of the most comprehensive and complex wildlife-management programs in the world. No actions have influenced migratory bird management more than the establishment of administrative flyways and their associated management bodies (USFWS 2014). The flyway concept of cooperative management between agencies and partners originated with the intention to maintain populations of game birds for hunting purposes. The concept grew through the recognition that management in any one State or region can affect management in other States and regions within and between flyways. Therefore, it is important to manage species and their associated habitats on broad, regional levels as the Service is able to do across flyways and with international partners, particularly those with which the U.S. has bilateral treaties for the conservation of migratory birds; Canada, Mexico, Russia, and Japan (USFWS 2014).

The Service works closely with flyway councils, which are composed of one representative from each State and province in the respective flyway, to plan, coordinate, implement, and evaluate the scientific management of migratory birds and their habitats (USFWS 2014). For example, waterfowl breeding populations and wetland conditions are monitored each year in the U.S. and Canada, and then waterfowl are banded post-breeding. The number of hunters is also recorded each year. This information is used to create frameworks for the timing and hunting limits for the following seasons at the flyway level, which States use to set their own hunting rules (USFWS 2015).

Since 2005, the four administrative flyways have developed nongame technical bodies within their structures to coordinate and collaborate across State boundaries. The addition of nongame

technical groups within flyways adds synergy to existing nongame bird conservation groups, such as Partners in Flight and the Waterbird and Shorebird conservation initiatives, which are loosely aligned under NABCI and comprise multiple bird conservation partners from agencies, non-governmental organizations, and institutions.

The Service's regional offices (see Figure 3-4 for regional boundaries) oversee regulatory and conservation activities related to migratory birds in each designated region. These activities include factors relating to migratory bird permit policy developed by the Division of Migratory Bird Management. Permits for raptor propagation, scientific collecting, special purposes (including education), and migratory bird propagation and salvage (including disposal permits) are issued by the Regional Migratory Bird Permit Offices (USFWS 2014). Regional offices also keep records of all other factors that add to intentional take of migratory birds, including subsistence take authorized through MBTA permits for the collection of live or dead birds for their feathers and talons for religious ceremonies (See Section 3.8.3 Native American, Alaska Native, Native Hawaiian and Pacific Islanders/Cultural Resources). Regional migratory bird staff and partners also develop and oversee monitoring and conservation projects for birds of high conservation priority (e.g., Birds of Conservation Concern). They work broadly within the four administrative flyways and with groups affiliated with the NABCI to achieve bird conservation goals locally, regionally, and internationally.

The National Wildlife Refuge System has established more than 200 National Wildlife Refuges specifically to provide breeding or wintering habitat for migratory birds. More than one million acres of wetlands on 356 refuges and more than 3,000 waterfowl production areas are actively

managed for the benefit of waterfowl and other birds.



Figure 3- 4. The Department of Interior Unified Regions, including the Service.

The Service’s Ecological Services (ES) program works collaboratively with other federal agencies, industries, and other stakeholders to achieve infrastructure development goals in ways that are sustainable and compatible with the conservation of fish, wildlife, and their habitats. Field biologists in all 50 States assist project proponents, planners, and personnel in developing plans that accommodate infrastructure needs, such as energy and transportation, while also protecting the environment and preserving our nation's biological resources. Biologists review and provide recommendations on plans and development designs, craft mitigation plans, provide expertise in wildlife and habitat science, and serve as members on planning teams. Historically ES included migratory bird recommendations to inform project proponents how to reduce incidental take. Under our current interpretation of the MBTA initiated by M-Opinion 37050, recommendations regarding migratory birds are less frequent.

The Office of Law Enforcement investigates wildlife crimes, regulates wildlife trade, helps Americans understand and obey wildlife protections laws, and works in partnership with international, State, and tribal counterparts to conserve wildlife resources. The Office of Law Enforcement enforces compliance with laws and permit conditions. Currently, the Office of Law Enforcement’s policy on incidental take is consistent with our current interpretation that incidental take is not prohibited under the Act.

3.10.1 Best Practices

Through partnerships and collaboration, the Service, industry groups, non-government organizations, States, tribes, and other federal agencies have developed many best practices (also

known as best management practices, conservation measures, and beneficial practices, and mitigation measures) that are aimed at avoiding and minimizing incidental take of birds. Each set of practices (see Appendix A) has targeted particular hazards and the stressors resulting from those hazards, such as those included in Table 3.2 above. Entities that follow these guidelines and other technical assistance by the Service generally engage in the following types of activities, depending on the industry:

- Consulting with federal and/or State natural resource agencies for technical assistance
- Conducting baseline bird and habitat surveys
- Conducting risk assessments for impacts to migratory birds
- Conducting ongoing or periodic monitoring of migratory birds
- Siting and micro-siting (within project) of projects and infrastructure to reduce risk to birds
- Deploying equipment and other infrastructure to reduce risk of taking birds, such as:
 - changes in lighting
 - installing mono-pole communications towers instead of using guy wires
 - netting of oil-retention ponds to prevent bird entrapment
 - retrofitting power poles to reduce the risk of large bird electrocutions
 - installing nesting structures to attract birds away from infrastructure
- Implementing operational changes to reduce risk of taking birds, such as the following:
 - scheduling vegetation removal, trimming, and grading of vegetated areas outside of the peak bird-breeding season
 - curtailing individual wind turbines under certain conditions
- Developing and implementing systems to detect and report take of birds
- Creating hotlines for the public, agencies, and employees to report bird interactions with infrastructure like power lines

Effective mitigation measures have not been identified for all activities, and not all mitigation measures have been researched sufficiently to accurately determine their effectiveness. For some industries where studies have been completed, mitigation measures have proven substantially effective. Communication towers, for example, have been shown to reduce mortality by about 70 percent by changing to flashing lights and removing guy wires (Gehring et al. 2011). For oil pits, bird mortality can be virtually eliminated if netting is installed and maintained (Trail 2006).

The Service does not have comprehensive estimates of the costs of implementing beneficial practices. Costs vary widely, from simple, low-cost practices like avoiding active nests during vegetation-clearing activities, to practices that have start-up costs but save operators money over the long-term (e.g., installation of blinking lights), to more expensive practices like retrofitting power poles, which can cost thousands of dollars, but also have significant long-term benefits,

such as preventing fires and local blackouts. There are also beneficial practices whose primary benefit to the industry is to reduce incidental take of migratory birds with no known financial benefit. One example is feathering wind-turbine blades during periods of peak bird migration, which reduces the risk to birds colliding with the turbine blades but also the electrical output and economic gain for the wind company.

The Service has never directly regulated the use of best practices and technologies under the MBTA and there are no data currently available to determine the extent of their use. Other State or federal regulations also affect construction and operational considerations that interact with birds. For example, the Federal Aviation Administration approved new lighting standards that require flashing lighting on most communication towers greater than 350 feet above ground level. Additionally, 13 States have regulations governing netting of oil pits to varying extent (see p13, USFWS 2009). None of the alternatives affect compliance with the ESA, the Bald and Golden Eagle Protection Act, or State regulations. Therefore, projects that comply with these statutes through mitigation or avoidance measures will often benefit migratory birds as well. Federal agencies are required to evaluate their impacts to the environment under NEPA. NEPA compliance requires federal entities to identify impacts to the environment affected by a proposal, including impacts to migratory birds if they are likely to occur. NEPA also requires federal entities to assess potential mitigation of unavoidable adverse environmental impacts, which may include analysis of project design or mitigation measures that reduce potential impacts to migratory birds.

3.11 Environmental Justice

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations requires federal agencies to make environmental justice part of their mission, and to identify and address disproportionately high and adverse human health and environmental effects of federal programs, policies and activities on minority and low-income persons or populations. The mission of the Service is “working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.” This mission, combined with the delegation of authority to implement the MBTA, which is founded on the four international treaties with Great Britain (on behalf of Canada), Mexico, Japan, and Russia that were instituted to sustain migratory bird populations for the benefit of humans, means the Service has a responsibility to ensure the sustainability of migratory bird populations for the benefit of the American public.

Migratory birds are, themselves, highly valued by American society, as illustrated in 3.10, and a 2016 analysis by the Service investigating the demographics of bird watchers in the U.S. indicates that low-income and minority Americans also partake in and value migratory birds through bird watching (Carver 2019). Low-income is defined by the U.S. Department of Housing and Urban Development as “80 percent of the median family income for the area”, and, based on the 2016 Service analysis, 16-20% of low-income Americans partake in birdwatching, largely around their homes (Carver 2019). The 2016 Service analysis also showed that of those surveyed who identified themselves as birdwatchers, 10% or fewer also identified themselves as minorities, Hispanic, African-American, or Asian (Carver 2019). The importance of migratory birds to tribes is described in section 3.10.

3.12 Summary

Migratory bird species protected by the MBTA are, overall, in decline, with approximately 22% of MBTA protected species in such decline as to warrant inclusion on the Service's BCC list because of concern for their sustainability. Additionally, there are comparatively three billion fewer individual birds estimated to be on the landscape today compared to almost 50 years ago. The loss and continuing decline of North American avifauna has largely been driven by anthropogenic sources that cause both direct and indirect mortality. The extent that this impact is related to any interpretation of the MBTA is unknown and has not been quantified. The detrimental impacts of anthropogenic sources of mortality can be lessened through the adoption of best practices, but the extent of their use and effectiveness has not been quantified in all cases.

Migratory birds provide tremendous value to society and ecosystems. Pest control, seed dispersal, recreation opportunity, nutrient cycling, and all the other services migratory birds provide are being produced wherever migratory birds are located. The socioeconomic value provided by migratory birds is in the billions of dollars. The value from bird watching alone exceeds \$92 billion annually, not including the economic benefit provided by supporting over 782,000 jobs (Carver 2019). However, there are insufficient data to derive a total value for most of the direct benefits. Further, many of the benefits provided by migratory birds come from a contribution to the ecological processes that drive ecosystem service production. Although these contributions have not been valued here, the role of birds in fostering primary productivity and the benefits that accrue from that are clearly considerable. Further, migratory birds provide many cultural, psychological, and aesthetic benefits for which economic value is an inadequate measure.

4. ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This chapter describes the potential environmental consequences of implementing the no action and two action alternatives described in Chapter 2. It is organized by the alternatives, addressing resource areas within each alternative. According to CEQ regulations, NEPA directs the Service to study potential effects to the human environment, as described below (40 CFR 1508.14):

Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment. NEPA requires that agencies include in their EISs a detailed statement of, among other things, the environmental impact of the proposed action and a description of unavoidable, adverse, environmental effects should the proposed action be implemented (42 U.S.C. 4332).

Potential cumulative effects for the resources presented below, including past, present, or reasonably foreseeable actions that may provide impacts related to the implementation of the preferred alternative, are described individually in the analysis of the effects of each alternative and more generally at the end of this chapter.

Resource impacts are discussed in terms of the context of the intensity, duration, and type of impact. NEPA regulations identify three types of effects: direct, indirect, and cumulative (40 CFR 1508.8).

Direct effects are “caused by the action and occur at the same time and place.” Indirect effects are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable [and] may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems” (40 CFR 1508.8). Cumulative effects are those resulting from “the incremental environmental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7).

The Service must follow federal laws, administrative orders, and policies in the development and implementation of management actions and programs. The implementation of any of the alternatives described in this EIS would not lead to a violation of these or other mandates, although Alternative B is inconsistent with our current interpretation of the scope of the MBTA.

Chapter 3 describes the state of migratory bird populations, the economic impacts and ecosystem services provided by migratory birds, and the various hazards and stressors that can cause incidental take of migratory birds. The action alternatives provide different approaches for the

Service to provide legal certainty and transparency regarding treatment of incidental take under the MBTA. The hazards would be generally common to all alternatives; therefore, this evaluation focuses on how the alternatives would be implemented. These factors result in meaningful differences among the alternatives in their effects on migratory birds and other resources, which are described in the following sections.

There are currently 1,093 species of migratory birds that are protected under MBTA regulations; refer to 50 CFR 10.13 for the complete list. Some of these species receive additional regulatory protection under the Bald and Golden Eagle Protection Act or according to their status as a federally threatened or endangered species under the ESA. None of the alternatives proposed would change the legal status of birds currently protected by the MBTA.

Executive Orders 12866 Regulatory Planning and Review (U.S. Office of Management and Budget 1993) and 13563 Improving Regulation and Regulatory Review and the OMB Circular A-4 (U.S. Office of Management and Budget, September 17, 2003), identify guidelines or “best practices” for the economic analysis of federal regulations. With respect to the proposed rule under consideration, an analysis that comports with Circular A-4 would include a full description and estimation of the economic benefits and costs associated with implementation of the proposed rule. However, with specific exceptions, quantitative data on the economic effects to the entities most likely affected by the proposed rule are not generally available. The impacts to those entities most likely affected by the proposed rule will be addressed qualitatively to the extent information is available to do so. Those entities include members of the public, federal, State, tribal, and local agencies, and businesses such as those involved in construction for residential, industrial, and commercial developments; timber harvesting; mining operations; oil and gas extraction; and wind- and solar-energy generation.

Accompanying the proposed rule was a draft Regulatory Impact Analysis (RIA) pursuant to E.O. 12866.⁴ Any analysis of economic impacts presented in this EIS further refines the RIA analysis, makes necessary adjustments to be consistent with the analytical framework and alternatives presented in this EIS, and incorporates information provided by the public on the NOI and the proposed regulations.

As discussed in section 2.1.1 above, we analyzed each alternative with the common assumption that entities may implement measures designed to protect migratory birds from incidental take for a variety of reasons, including: in response to federal, State, tribal, or local statutes, regulations, or guidelines; public perception; size of company; cost of implementation; perceived risk of killing migratory birds; availability of standard industry practices; or perceived legal risk due to uncertainty.

⁴ <https://www.regulations.gov/document?D=FWS-HQ-MB-2018-0090-0173>

4.2 Effects of the Alternatives on the Human Environment

4.2.1 No Action Alternative

On December 22, 2017, the Department of the Interior (DOI), Office of the Solicitor released M-Opinion 37050 (or M-37050) providing a legal interpretation that the MBTA does not prohibit incidental take of migratory birds. Since that time, the Service has acted in accordance with this interpretation and limited enforcement of the MBTA to prohibited actions directed at migratory birds. As noted above, a federal district court vacated M-37050 after we issued the proposed rule and draft EIS. We respectfully disagree with the district court's determination and have continued to develop our proposal and enforce the statute according to our current interpretation. Continuing to implement this interpretation and taking no additional action constitutes the No Action alternative. The section below analyzes the impacts of continuing to implement our current interpretation as set forth in the proposed rule. Continuing to rely on an interpretation initiated by a since-vacated legal opinion does not provide the public with the same certainty as other action alternatives. However, over time as entities become more confident in the long-term implementation of our interpretation, there will likely be a reduction in the number of best practices implemented.

Under the No Action Alternative, the Service would continue to enforce the MBTA in cases of unauthorized purposeful take and provide technical assistance to industry, the public, and partners seeking to reduce impacts to migratory birds. The Service would also continue to work with federal agencies to develop and update Memoranda of Understanding under Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds (66 FR 3853) that would avoid or minimize avian mortality from specific hazards of federal actions.

The release of M-Opinion 37050 left many States uncertain as to how to effectively minimize and prevent incidental take of migratory birds. In response, the Association of Fish and Wildlife Agencies (AFWA) conducted an evaluation of State laws that directly address the incidental take of migratory birds and found that 17 States have provisions regulating some form of incidental, indirect, or accidental take of migratory birds (AFWA 2019). Other States have legal language that was made indeterminate or ambiguous by the change in federal interpretation of the MBTA. 25 States lack any provisions to regulate incidental take of migratory birds. Of the 17 States regulating incidental take to some degree, the provisions vary substantially in structure and come with unique limitations. There was no evidence that any of these 17 States enforced their provisions specifically regulating the incidental, indirect, or accidental take of migratory birds (AFWA 2019). States may have other regulations that indirectly protect migratory birds.

4.2.1.1 Migratory Birds

The biological effects of the No Action Alternative are primarily a result of the effects on the implementation of beneficial practices for migratory birds (see examples in Appendix A). Under the No Action Alternative, there is no regulatory requirement to implement beneficial practices

for birds under the MBTA (as has been the case under either interpretation) and no threat of federal criminal prosecution under the MBTA for the incidental take of migratory birds.

Information regarding the Service's interactions with infrastructure and development projects, as well as information from public comments on the proposed rule and notice of intent for this EIS, suggests that some entities that incidentally take migratory birds implement beneficial practices to reduce take. There are many factors that go into an entity's decision to take actions to reduce incidental take of migratory birds including other federal or State requirements, public perception, size of company, cost of implementation, perceived risk of killing migratory birds, or availability of standard industry practices. Some entities may be continuing to implement practices to reduce take for any of these reasons or simply to reduce their perceived legal risk due to uncertainty, recognizing that a Solicitor's opinion or exercise of enforcement discretion may be changed at any time without requiring a rulemaking process. However, if the No Action Alternative were selected, it is possible that entities, including governmental agencies authorizing actions by private entities, would become more accustomed with our current position regarding incidental take, resulting in a reduced number of entities that implement best practices over time.

Available information on bird mortality is largely from older sources published or compiled prior to the issuance of M-Opinion 37050, when prohibitions of incidental take were enforced under certain circumstances (See Section 3.7). Notwithstanding the other reasons entities implement best practices for birds described above; the level of bird mortality under the No Action Alternative is likely higher than that reported in Section 3.7, particularly for those industries previously subject to enforcement actions under the MBTA. For example, in States that do not require netting over oil pits, fewer pits would be covered under this alternative and it is logical to assume that more birds will die in uncovered pits. In addition, we would expect recommendations made by the Service such as seasonal avoidance (i.e., practices to clear vegetation outside of the breeding season) to decrease over time for the reasons stated above.

In summary, due to the uncertainty over the long-term status of our current interpretation and exercise of enforcement discretion regarding incidental take, some entities would likely continue to implement some best practices to reduce take of migratory birds, hedging their legal compliance on the side of caution. However, over time as entities become more confident of the long-term application of our current interpretation of the MBTA, there will be a likely reduction in the number of best practices implemented. Therefore, migratory birds will likely experience increasing negative impacts over time as compared to current conditions; these impacts could be significant.

4.2.1.2 Other Biological Resources

Under the No Action Alternative, the Service would continue to rely on voluntary implementation of best practices as the primary means of managing incidental take of migratory birds. As described in 4.2.1.1, the number and geographic distribution of projects implemented with measures designed to avoid or minimize the impacts associated with incidental take would likely be reduced over time. For example, some oil-producing States have regulations requiring netting of oil pits that effectively reduces incidental take of migratory birds whereas other oil-

producing States have no regulations or other laws, however, those regulations were not evaluated by AFWA. The lack of legal liability for incidental take under the No Action alternative would likely cause many project proponents to no longer seek or implement guidance from the Service about ways to avoid or minimize adverse effects on migratory birds. Other taxa might also experience negative impacts from reduced implementation of these recommended avoidance and minimization measures.

Covering an oil pit not only reduces the mortality of migratory birds, it also may reduce mortality of many other taxa, such as insects, amphibians, and mammals. Birds and bats are at risk for colliding with wind turbines, and typically, actions taken at wind facilities to reduce collisions with birds do so for bats too. Measures that are taken to reduce bird electrocutions with powerlines also reduce the risk of wildfires that can imperil local wildlife. In summary, the No Action Alternative would likely result in negative effects on other biological resources such as vegetation and wildlife to the extent that such measures to reduce take are not required by some other statute or regulation.

4.2.1.3 Native American, Alaska Native, Native Hawaiian and Pacific Islanders Cultural Resources

Under current practice, voluntary guidance is provided to industries and agencies to avoid and minimize incidental take of migratory birds. However, tribes are not generally consulted during this process and therefore their concerns may not be adequately addressed on a project-by-project basis. If as described above in section 4.2.1.1, there is an increase in the incidental take of migratory birds and associated impacts with other biological resources, species that are culturally important to native peoples could be impacted.

4.2.1.4 Ecosystem Services and Socioeconomics

Effects on ecosystem services - Many ecosystem services are provided by migratory birds, generating billions of dollars of economic benefits to the U.S. economy (see Section 3.10). As described in 4.2.1.1, the level of incidental take occurring under the No Action Alternative may be higher than that reported in Section 3.7. Increased mortality of birds has a negative effect on the ecosystem services provided by migratory birds. However, data are not readily available to determine the economic value of these changes in ecosystem services.

Economic effects on regulated entities – The economic effects of the No Action Alternative on regulated entities are in part a result of the effects on the implementation of beneficial practices for birds. The No Action Alternative requires no implementation of best management practices, thus does not generate any direct costs associated with these actions. As described in 4.2.1.1, it is anticipated that over time, more entities would reduce implementation of best practices, reducing costs. However, as described in Section 4.2.1.1, while there are a variety of reasons entities implement beneficial practices for birds, there are likely entities that continue to implement these practices due to concerns regarding the uncertainty of the long-term status of DOI's current enforcement policy as opposed to a rulemaking. Section 3.13.1 includes information on the types of practices and types of costs associated with implementing best practices. For some industries

and practices, there could be costs associated with implementing beneficial practices that entities believe they are compelled to continue to do, due to the regulatory uncertainty.

With no regulatory action, regulated entities participating in projects that have a federal nexus would continue to face impacts caused by potential legal challenges to authorization of those projects. The existing patchwork of inconsistent legal standards caused by different federal appellate courts reaching different conclusions on whether incidental take is prohibited by the MBTA reduces legal certainty for those regulated entities. Regulated entities may face additional costs in implementing risk-minimizing behaviors in light of the regulatory uncertainty described in the No Action Alternative. For example, entities may incur expenditures used to minimize long-term legal risk and on increased risk premiums on loans, financial capital, and insurance. Similarly, if individual States enact separate incidental take protections for birds in response to the No Action Alternative (see Economic effects on government entities below), as many are now considering, industries doing business across State lines may be faced with an increasingly complex, costly, and inconsistent regulatory environment. However, the primary effect on regulated entities would generally be positive because of the potentially reduced costs resulting from decreased implementation of best practices to avoid incidental take of migratory birds over time.

Birds of conservation concern and other vulnerable bird species face likely negative effects from the No Action Alternative (see 4.2.1.1). Some may decline to the point of requiring listing under the ESA. In addition, the lack of legal protection against incidental take for migratory birds under the No Action Alternative may factor into delisting and other listing decisions for birds listed under the ESA, which may prolong such decisions. Entities affecting newly listed species or species delayed for delisting or downlisting from endangered or threatened status as a result of this alternative may face increased costs of compliance. These impacts are difficult to predict and depend on the specific status of each individual species.

Economic effects on government entities – States manage wildlife within their State borders. Most States have relied on the Service implementing the MBTA and enforcing previously prohibited incidental take of birds and have collaborated with the Service’s staff and enforcement capabilities to work with regulated entities to meet both federal and State requirements. Under the No Action Alternative, States would continue assessing the implications of our new interpretation and exercise of enforcement discretion for incidental take after issuance of M-Opinion 37050 on their regulation of migratory birds and if and how to adjust State policies and capacities to address incidental take. If the No Action Alternative continued indefinitely, this would likely increase costs to at least some States to develop and implement regulatory and policy changes to meet their State mandates to protect birds.

As birds of conservation concern and other vulnerable bird species face likely negative effects from the No Action Alternative (see 4.2.1.1), some may decline to the point of requiring listing under the ESA. In addition, the lack of legal protection against incidental take for migratory birds under the No Action Alternative may factor into delisting and other listing decisions for birds listed under the ESA, which may prolong such decisions. Though these impacts are difficult to forecast and depend on the specific status of each individual species, it is reasonable

to predict that listing new species or delaying species delisting or other listing determinations as a result of this alternative may increase costs to the Service to implement ESA-related actions.

In sum, the impacts on government entities of the No Action Alternative are expected to be negative and may be significant in some individual cases, although the Service's law enforcement program would continue to realize cost savings from not enforcing incidental take under the Act.

4.2.1.5 Environmental Justice

This alternative is not expected to have a disproportionate direct or indirect effect on any minority or low-income populations. Under this alternative, the standards and related impacts would apply equally to all persons, regardless of race or income. Overall, environmental justice effects of the No Action alternative are expected to be minimal.

4.2.2 Alternative A: Promulgate regulations that define the scope of the MBTA to exclude incidental take

Alternative A is the Service's preferred alternative. Under this alternative, the Service will promulgate regulations that define the scope of the MBTA take prohibitions to relate strictly to purposeful take directed at migratory birds, thus excluding incidental take. This regulatory change would not alter the current implementation or enforcement of the MBTA where parties will not be subject to enforcement for the incidental take of birds. By adopting this alternative, the Service would create a greater degree of legal and regulatory certainty compared to the No Action Alternative. Given the greater degree of certainty compared to the No Action alternative, we expect the implementation of best practices to be further reduced over time, resulting in increased environmental impacts in the long-term.

To mitigate the expected adverse impacts from this alternative, the Service could expand and promote our continued work with appropriate stakeholders and industry to develop and promote best practices for the mitigation of impacts to migratory birds. Other potential mitigation activities we would consider pursuing are increasing training and collaboration with State partners and pursuing additional partnerships for expanding migratory bird monitoring efforts. In addition, the Service will work to provide training to Service staff on current best practices on managing incidental take and continue to advise all Service Offices to provide technical assistance for reducing impacts to migratory birds to any entity that may, either voluntarily or to comply with other federal, State, tribal, or local laws and regulations, seek to avoid or minimize their project's impacts on migratory birds and their habitats. If these voluntary measures are implemented, it may offset some of the potential reduction in protective measures as outlined within this EIS.

4.2.2.1 Migratory Birds

In the No Action alternative (given the continued uncertainty in the absence of a regulation defining the scope of the MBTA), some entities would likely continue to implement beneficial

practices to reduce take of migratory birds, guarding for their legal compliance on the side of caution and uncertainty. Under Alternative A, a regulation would create more legal certainty and thus it is likely that fewer entities will implement best practices aimed at reducing incidental take, unless still required to do so under other federal, State, tribal, or local laws and regulations. As a result, compared to the No Action Alternative, the level of bird mortality reported in Section 3.7 would likely be higher, particularly for those industries previously subject to enforcement actions under the MBTA.

There are many factors that may go into an entity's decision to take actions that reduce incidental take of migratory birds, including other federal or State requirements, public perception, size of company, cost of implementation, perceived risk of killing migratory birds, or availability of standard industry practices. However, unlike the No Action Alternative, there would be less legal risk under the MBTA for not implementing best practices due to the regulatory action. For example, as described in 4.2.1.1, reduced incentives for netting oil pits in States that do not require them⁵ is likely to result in more birds dying in uncovered pits.

Thus, compared to the No Action alternative, negative impacts on migratory birds are expected to increase over time as more entities react to the certainty that incidental take is not prohibited under the MBTA.

4.2.2.2 Other Biological Resources

Under Alternative A, the Service would continue to rely on voluntary guidance as the means of managing incidental take of migratory birds. The number and geographic distribution of projects implemented with measures designed to avoid or minimize the impacts associated with incidental take would likely be reduced over time. Because Alternative A provides a greater degree of legal certainty, it is likely that fewer entities would seek or implement guidance from the Service about ways to avoid or minimize adverse effects on migratory birds. If the implementation of these measures is reduced, other taxa might also experience increased negative impacts. In summary, Alternative A would likely cause negative impacts to vegetation and wildlife.

4.2.2.3 Native American, Alaska Native, Native Hawaiian and Pacific Islanders Cultural Resources

Under Alternative A, voluntary guidance may be provided to industries and agencies to avoid and minimize the incidental take of migratory birds. However, tribes are not required to be consulted during this process and therefore their concerns may not be adequately addressed on a project-by-project basis. If as described above in section 4.2.2.1, there is an increase in the incidental take of migratory birds and associated impacts on other biological resources, species that are culturally important to native peoples could be negatively impacted.

⁵ Thirteen States have regulations governing netting of oil pits (*see* p.13, USFWS 2009).

4.2.2.4 Ecosystem Services and Socioeconomics

Effects on ecosystem services - Many ecosystem services are provided by migratory birds, generating billions of dollars of economic benefits to the U.S. economy (see Section 3.10). As described in 4.2.2.1, Alternative A would likely result in an increase in incidental take of birds above the No Action Alternative, which would result in greater loss of ecosystem services provided by migratory birds compared to the No Action Alternative. However, data are not readily quantifiable and available to determine an accurate economic value of these changes in ecosystem services, but the amount may be significant.

A loss in ecosystem services provided by migratory birds would be expected in market and non-market goods and services. For example, a loss of birds providing pest insect control would increase crop damage to agricultural producers and some producers would likely incur increased costs for pesticides, which could have their own effects on ecosystem services. Similarly, birds help control insects that are vectors for disease, such as eastern equine encephalitis and the Zika virus. Fewer insect-eating birds would be expected to increase public health costs and mosquito control costs. See section 3.10 for more examples of ecosystem services.

Economic effects on regulated entities – The economic effects of Alternative A on regulated entities would largely be a result of its effects on the implementation of beneficial practices for birds. As described in Section 4.2.2.1, with the increased legal certainty associated with codifying what is prohibited by the MBTA into regulations, it is expected that more entities would reduce or eliminate implementing beneficial practices. Section 3.13.1 includes information on the types of practices and types of costs associated with implementing them. For some industries and some practices, there would likely be cost savings from not implementing beneficial practices. For example, one best practice applied to many industries, like highway construction, is to avoid construction and vegetation clearing during migratory-bird nesting season in appropriate habitat. There is a cost to delaying projects until after nesting season, and some operators may choose to avoid such costs with no threat of enforcement under the MBTA.

With the proposed regulatory action, courts would more likely defer to the Service's interpretation of the MBTA, resolving some or all of the inconsistent legal standards caused by the differing views of federal appellate courts on whether incidental take is prohibited by the MBTA. Additional benefits may accrue as more regulated entities adjust risk-minimizing behaviors in light of the increased regulatory certainty provided by the rulemaking described in Alternative A. For example, the Service anticipates that the additional regulatory certainty provided by a regulation may generate additional cost savings as more entities reduce expenditures previously used to minimize legal risk and decrease risk premiums on loans, financial capital, and insurance. However, if individual States enact separate incidental take protections for birds in response to Alternative A (see Economic effects on government entities below), as many are now considering, industries doing business across State lines may be faced with an increasingly complex, costly, and inconsistent regulatory environment.

As birds of conservation concern and other vulnerable bird species face likely negative effects from Alternative A (see 4.2.2.1), some may decline to the point of requiring listing under the ESA. In addition, the lack of legal protection against incidental take for migratory birds under

Alternative A may factor into delisting and other listing decisions for birds listed under the ESA, which may prolong such decisions. Entities affecting newly listed species or species delayed for delisting or downlisting from endangered to threatened status as a result of this alternative may face increased costs of compliance. These impacts are difficult to predict and depend on the specific status of each individual species.

Economic effects on government entities – States manage wildlife within their State borders. Most States have relied on the Service to implement the MBTA and enforce generally, what was previously the prohibited incidental take of birds. States have also collaborated with the Service’s biological and law enforcement staff to assist regulated entities in meeting both federal and State requirements. Under the No Action Alternative, many States are still assessing the implications of our current interpretation and enforcement policy regarding incidental take on their State regulation of migratory birds and how to adjust State policies and capacities. Under Alternative A, with the legal certainty provided by a regulation, some States may need to enact changes in their regulatory processes and staffing to meet State laws governing birds (see 4.2.1). This would likely increase costs for States as they work to develop and implement regulatory and policy changes to meet their State mandates to protect birds.

As birds of conservation concern and other vulnerable bird species face likely negative effects from Alternative A (see 4.2.2.1), some may decline to the point of requiring listing under the ESA. In addition, the lack of legal protection against incidental take for migratory birds under Alternative A may factor into delisting or other listing decisions for birds listed under the ESA, which may prolong such decisions. Though these impacts are difficult to forecast and depend on the specific status of each individual species, it is reasonable to predict that listing new species or delaying species delisting or other listing determinations as a result of this alternative may increase costs to the Service to implement ESA-related actions.

4.2.2.5 Environmental Justice

This alternative is not expected to have a disproportionate direct or indirect effect on any minority or low-income populations. Under this alternative, the standards and related impacts would apply equally to all persons, regardless of race or income. Overall, environmental justice effects of Alternative A are expected to be minimal.

4.2.3 Alternative B: Promulgate regulations that define the scope of the MBTA to include incidental take

In this Alternative, the Service would implement the MBTA as it applies to incidental take under the prior interpretation outlined in M-Opinion 37041. The Service would promulgate a regulation to define the scope of the MBTA as outlined in withdrawn M-Opinion 37041. Although DOI concludes that this is not a correct reading of the statute’s language, legislative history, and case law, by reverting to the prior interpretation, the Service would view the incidental take of migratory birds as a violation of the MBTA. Prior to M-37050, the Service interpreted the MBTA to prohibit incidental take and relied on enforcement discretion to determine when to pursue alleged incidental take violations.

In addition to the threat of enforcement, the Service previously encouraged compliance by recommending the implementation of voluntary best practices to demonstrate the project proponent took reasonable actions to address bird impacts. Following these guidelines and other technical assistance by the Service helped entities reduce incidental take of migratory birds and was one factor the Service considered in exercising its discretion in pursuing enforcement actions. See Section 3.13.1 for examples of these best practices. This alternative would provide a greater level of legal certainty by creating a regulatory definition of the scope of the MBTA. However, uncertainty would remain in the regulated community regarding what is required to achieve compliance with the MBTA when compared to the No Action Alternative and Alternative A.

4.2.3.1 Migratory Birds

Interpreting the MBTA as prohibiting incidental take of migratory birds would likely increase the application of best practices to reduce impacts on birds across most industries. Under our prior interpretation, the Service relied on the combination of technical assistance and enforcement discretion to manage the incidental take of migratory birds. Under this framework, best practices were developed and implemented by many industries. All measures were voluntary and used to demonstrate good faith efforts by a particular entity that reduction of incidental take was being considered in project planning. Application of voluntary measures was also not a guarantee against enforcement. Given the voluntary nature of these measures, there was inconsistent implementation across industries and entities. Migratory birds experienced varying degrees of incidental take by industry and were experiencing widespread population level declines despite this approach (as outlined in Chapter 3 of this EIS).

It is important to note that enforcement actions for incidental take under this alternative would not be uniform or “automatic.” Appellate courts in the Fifth, Eighth, and Ninth Circuits questioned the Department’s prior reading of the MBTA to include incidental take and many other courts have argued for various limitations on the application of strict liability for incidental or accidental taking or killing.

Historically, the Service completed on average 30 investigations of industrial take per year involving the MBTA, as discussed in more detail in section 2.3.2. Since publication of M-Opinion 37050, there have been no prosecutorial actions for incidental take under the MBTA initiated by the Service. Assuming the Service has similar capacity as prior to publication of M-Opinion 37050 and takes a similar approach, we anticipated that the increased threat of enforcement of incidental take prohibitions under the MBTA would cause more entities to enact beneficial practices than the No Action Alternative and Alternative A.

The Service provides technical assistance to a variety of entities under the laws the Service is charged with administering and implementing, including the MBTA. Since the publication of M-Opinion 37050, the Service has experienced decreased demand for technical assistance associated with migratory birds. Assuming the Service has similar capacity as prior to publication of M-Opinion 37050 and takes a similar approach, we anticipate that demand for technical assistance provided by the Service would increase, which we would expect to result in

greater adoption of beneficial practices compared to the No Action Alternative and Alternative A.

Enforcement of violations of the MBTA would also result in fines and other adjudications for corrective actions to address illegal take. In the past, MBTA-related fines and other adjudications generated millions of dollars that were spent on habitat protection and restoration and other mitigation measures that benefited birds, as referenced in section 2.3.2.

It is reasonable to assume that there would be an increase in implementation of best practices as entities seek enforcement discretion compared to the No Action Alternative or Alternative A. However, there would be greater legal uncertainty for entities regarding what actions would afford them enforcement discretion if take occurred and many occurrences of incidental take would not be enforced or successfully prosecuted. The portion of funds contingent on MBTA-liability resulting from mitigation of enforcement actions would benefit birds through habitat protection and restoration, although incidental take of migratory birds would continue to occur under Alternative B.

4.2.3.2 Other Biological Resources

Under this alternative, the reliance on voluntary guidance to reduce impacts to migratory birds would benefit other resources only to the degree that the measures were implemented. If there was an increase in beneficial practice implementation compared to the No Action alternative, then other biological resources may benefit as measures to reduce threats to birds often reduce threats to other taxa, such as preventing animals other than migratory birds from entering oil pits. Artificial lighting at night, such as obstruction lights on communication towers, has been found to disrupt the circadian rhythms of local insects, so decreasing the amount of lighting can also benefit arthropods, which are an important part of most food chains and functioning ecosystems. Other measures that benefit other resources include seasonal vegetation removal restrictions and siting projects in already degraded habitat compared to undisturbed habitat. While it is unknown the extent to which other biological resources could be affected by Alternative B, it is likely the effect would be beneficial.

4.2.3.3 Native American, Alaska Native, Native Hawaiian and Pacific Islanders Cultural Resources

Under this alternative, voluntary guidance would be provided to industries and agencies to avoid and minimize incidental take of migratory birds. However, tribes are not required to be consulted during this process and therefore their concerns may not be adequately addressed on a project-by-project basis. There would be more oversight of these projects as law enforcement staff would investigate incidental deaths. Assuming that more best practices are implemented as entities try to complete their due diligence to gain the benefit of enforcement discretion, as described above, both birds and other biological resources would likely benefit. While, some culturally significant species may still be impacted, it is likely to be at a reduced rate or not at all.

4.2.3.4 Ecosystem Services and Socioeconomics

Effects on ecosystem services - Many ecosystem services are provided by migratory birds, generating, according to some studies, billions of dollars of economic benefits to the U.S. economy, though the exact nature and size of these benefits is uncertain and contested (see Section 3.10). As described in 4.3.3.1, Alternative B is expected to result in a decrease in incidental take of birds relative to the No Action Alternative and Alternative A. This is expected to result in an increase in ecosystem services provided by migratory birds compared to the No Action Alternative and Alternative A. However, data are not readily quantifiable and available to determine the economic value of these changes in ecosystem services.

Habitat restoration from MBTA-related fines as a result of enforcement actions would benefit birds and other ecosystem services provided by that habitat, such as providing clean water, open space, and flood protection. In the past, fine revenue from prosecuting incidental take protected or restored thousands of acres of wetland habitat in priority bird conservation areas (see 2.3.2).

Companies that benefit from ecosystem services, such as certain agricultural producers and eco-tourism companies could expect to benefit from any increases in ecosystem services provided by Alternative B.

Economic effects on regulated entities As described in Section 4.2.3.1, the threat of enforcement under the MBTA for incidental take of birds and the increase in Service technical assistance recommendations regarding migratory birds would likely result in more entities adopting or enhancing their implementation of beneficial practices for birds. Section 3.13.1 includes information on the types of practices and types of costs associated with implementing them. It is anticipated that Alternative B would result in increased costs to entities for implementing such beneficial practices compared to the No Action Alternative and Alternative A.

With no regulatory action, regulated entities would likely face additional costs related to differences in enforcement and litigation of projects with a federal nexus across the existing patchwork of inconsistent legal standards caused by different federal appellate courts reaching different conclusions on whether incidental take is prohibited by the MBTA. Additional costs may accrue as more regulated entities adjust risk-minimizing behaviors in light of the decreased regulatory certainty provided by Alternative B. For example, the Service anticipates that the reduced regulatory certainty provided by Alternative B may generate additional costs as more entities increase expenditures to minimize legal risk and potentially experience increased risk premiums on loans, financial capital, and insurance.

As birds of conservation concern and other vulnerable bird species face likely positive effects from Alternative B (see 4.2.3.1), some may avoid declining to the point of requiring listing under the ESA compared to the No Action Alternative and Alternative A. In addition, the legal protection against incidental take for migratory birds under Alternative B may factor into determinations to delist or downlist a species from endangered to threatened status for birds listed under the ESA, potentially increasing the likelihood of delisting or downlisting. Entities may face decreased costs of compliance as a result of these potential effects. These impacts are difficult to predict and depend on the specific status of each individual species.

Economic effects on government entities – States manage wildlife within their State borders. Most States have relied on the Service to implement the MBTA and enforce the previously prohibited incidental take of birds and have partnered with Service staff and enforcement capabilities to assist regulated entities in meeting both federal and State requirements. Continued reliance on the Service to regulate incidental take prohibitions under the MBTA and to provide technical assistance on birds would avoid the potential costs to States of the No Action Alternative and Alternative A.

The Service would incur increased costs compared to the No Action Alternative to enforce and implement the MBTA under Alternative B. These costs would be required to perform investigations and related law enforcement actions for incidental take violations, and potentially to develop additional technical assistance guidance and increase technical assistance due to the expected increased requests from entities seeking compliance under the MBTA. For example, prior to publication of M-37050, from January 1, 2013, through December 31, 2017, the Service Office of Law Enforcement completed approximately 152 industrial take investigations involving MBTA protected species. These represent approximately 7,906 investigative hours worked by FWS Special Agents and involve industrial take investigations. The total estimated salary cost associated with this enforcement was \$2 million.

As birds of conservation concern and other vulnerable bird species face likely positive effects from Alternative B (see 4.2.3.1), some may avoid declining to the point of requiring listing under the ESA compared to the No Action Alternative and Alternative A. In addition, the legal protection against incidental take for migratory birds under Alternative B may factor into delisting or other listing decisions for birds listed under the ESA, potentially increasing the likelihood of delisting or downlisting from endangered to threatened status and reducing long-term management costs for those species. Though these impacts are difficult to forecast and depend on the specific status of each individual species, it is reasonable to predict that the Service may face decreased costs to implement ESA-related actions as a result of these potential effects.

4.2.3.5 Environmental Justice

This alternative is not expected to have a direct or indirect effect on any minority or low-income populations. Under this alternative, the standards and related impacts would apply equally to all persons, regardless of race or income. Overall, environmental justice effects of the Alternative B are expected to be minimal.

4.3 Transboundary Impacts

Agencies must include analysis of reasonably foreseeable transboundary effects of their proposed actions (CEQ 1997). Transboundary impacts are those environmental impacts resulting from a federal action, which takes place in the U.S. that may affect other countries or jurisdictions. Migratory birds do not adhere to the political boundaries between the U.S. and the neighboring countries of Canada and Mexico or limit their migration patterns according to administrative boundaries. For example, of the 460 species of bird regularly found in Canada, 414 species migrate to or through the U.S. for some part of their annual cycle. This proposed

rulemaking has the potential to reduce bird protections in the U.S. exposing migrant or wintering species to increased negative consequences from reduced protective actions for common anthropogenic hazards. Migratory birds that spend a portion of their annual life cycle in the U.S. may be exposed to a multitude of hazards that cause incidental take. The magnitude of this exposure would change based on the extent to which each alternative addresses these hazards, which may or may not have best practices implemented.

Thus, if migratory birds are negatively affected during the time they spend in the U.S., there could be negative affects to those bird populations having negative consequences on ecosystem services and socioeconomics derived from those species. For example, a number of aerial insectivores that breed in Canada (a group that has declined by 32% or roughly 160 million birds over the last 50 years) migrate thru or winter in the U.S. and may face increased population declines while outside of Canada due to reduced protections in the U.S. These impacts may affect the ecosystems services provided by this guild (e.g., insect pest control). The alternatives that have the potential to benefit migratory birds during the time they spend in the U.S. would similarly benefit bird populations in the other countries where the migratory birds also occur, as well as the ecosystem services and socioeconomics derived from migratory birds and vice versa.

4.4 Cumulative Impacts

Cumulative effects include past, present, and reasonably foreseeable future actions in addition to the proposed action. Impacts, both negative and positive, accumulate over time and the degree and intensity of those impacts vary depending on the type of environment in which they occur. Impacts accumulate by adding the same type of impact over time (such as habitat loss), or two types of impacts can interact with each other and the impact of both will be greater than the impact individually (such as two types of poisons). Specific cumulative impacts are also discussed above in section 3 in the analysis of the affected environment (past and present actions) and in section 4.2 under each alternative, along with direct and indirect impacts, where appropriate. Cumulative impacts discussed below are more general in nature and focus on how broad anthropogenic impacts may affect migratory birds in the foreseeable future.

4.4.1 Future U.S. Growth Projections

The majority of impacts to birds come from human alteration of the landscape. According to the U.S. Census Bureau (Colby and Ortman 2015), the U.S. population is expected to increase from 319 million people in 2014 to just under 417 million people in 2060, an average increase of 2.1 million people per year. With increasing populations, the demand for space, energy, and food will also continue to grow.

Concurrently with population growth is the need for urban center expansion, increased conversion of land for agriculture, and the demand to meet energy requirements. It is estimated that approximately one acre of land is lost to urbanization for every person added to the U.S. population (Pimentel and Giampietro, 1994) and that urban expansion will increase by 139% over the next 50 years and occupy 17% of the U.S. land area (Terrando et al. 2014), though depending on definitions of “urban” other studies have found far less land occupied by current and future urbanization.

As urban areas continue to grow, increased pressure will be applied to agricultural sectors, as limited land area becomes an issue, resulting in less habitat available for birds and biological resources, though it should also be noted that U.S. forest cover, providing potential bird habitat is increasing (Song, Hansen, et. al. 2018) and some marginal farmland is being returned to its natural state, increasing habitat. Agricultural sectors may have to find new innovative ways to grow crops more efficiently. Examples of how agriculture may produce greater crop yields in less area includes using more genetically modified seeds, increasing annual harvest rates, and resorting to increased chemical applications (e.g., fertilizer, pesticides, rodenticides, etc.) to reduce crop loss and increase plant vigor.

In addition to housing and feeding a growing nation, there will be severe strains on how to power a growing nation. This could mean reliance on multiple sources of energy, both fossil fuels and renewable energy. According to projections, global energy consumption will continue to grow by 0.7 percent per year thru 2050 (Nyquist 2016) and thus increased energy production will be required to meet these demands.

4.4.2 Impacts of Human Population Growth on Birds

The impacts of U.S. population growth and the drive to meet societal demands for housing, food, and energy could have significant impacts on the environment. Environmental impacts associated with these needs include accelerated alteration of landscapes due to shifts in climate and increased hazards on the landscape, air pollution, acid rain, energy waste (e.g., radioactive waste), and habitat destruction. As a result, it can be anticipated that human population growth will negatively affect migratory birds.

Impacts to migratory birds could result from the increase in anthropogenic impacts such as collision risk from increases in glass and lighting, wind energy, solar development and electrical transmission and distribution lines. These impacts might be offset to some degree with the continued development of technologies that are more effective and efficiency measures that may also reduce the risk of bird mortality.

In addition to the potential increase in anthropogenic impacts, there would be an increased rate of habitat loss and degradation, increased application of chemicals, degradation of air and water quality, and potential for large environmental incidents (e.g., oil spills, pipeline breaks, and wildfires). As urbanization and agricultural intensification increase, the amount of habitat that remains intact and suitable for providing all resources required for breeding, feeding, and sheltering will almost certainly decrease.

Vast areas of forest, prairie, wetland, and estuary habitat have been developed for agricultural, industrial, commercial, residential, recreational, and other uses. Although statutory and regulatory requirements for environmental protection have become widespread in recent decades, many habitat types continue to decline as they are converted to other uses (North American Bird Conservation Initiative 2014). This past and ongoing loss of habitat is a major cause of decline for many migratory birds (North American Bird Conservation Initiative 2014). Wetland loss, for instance, has had a particularly deleterious cumulative effect, with as much as 117 million acres lost since the 1780s (Dahl 1990).

4.4.3 Beneficial Effects

The MBTA was instituted to prevent the large-scale intentional harvesting of migratory birds that threatened their survival. Environmental laws have substantially reduced the introduction of chemicals that are harmful to birds. Populations of many bird species recovered following the implementation of restrictions on the use of chlorinated pesticides (e.g., DDT) during the 1970s (Rattner 2007). Other environmental laws, notably NEPA, Clean Water Act, and the ESA, have provided (or furthered the analysis or discussion of) a variety of means to avoid and reduce some environmental changes that are harmful to migratory birds.

Business and industry have taken steps to reduce bird loss. Organizations in which industry has participated, such as the Wind Turbine Guidelines Advisory Committee and the Avian Power Line Interaction Committee, worked closely with the Service to develop guidelines that include mitigation measures for migratory bird protection. Some architects and building developers have instituted anti-glare measures, and some industrial sites are using covers for ponds that contain material deleterious to migratory birds. Oil and gas operations are increasingly using closed-containment systems instead of open pits for waste materials during drilling operations, eliminating this threat to birds.

These past measures will continue to benefit migratory birds into the future to the extent they continue to be implemented. New technologies may also continue to reduce impacts from sources of mortality that have traditionally killed birds.

4.4.4 Overall Cumulative Environmental Effects

Regardless of what alternative is selected, existing trends of habitat loss and the proliferation of anthropogenic hazards on the landscape are expected to continue and will adversely affect most migratory birds and the ecosystems that support them, in some cases contributing to population declines. The No Action Alternative and Alternative A (promulgate regulations) have the potential to increase the rate and severity at which anthropogenic effects negatively affect migratory birds. Alternative B encourages or requires the use of best practices and thus could decrease the rate and severity at which anthropogenic effects negatively impact migratory birds.

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APPENDIX A. Available Best Practices (also known as Best Management Practices, Conservation Measures, and Beneficial Practices), organized by the threats to migratory birds each addresses.

Multiple threats:

[Nationwide Standard Conservation Measures \(FWS\)](#)

This is a comprehensive compilation of many stressors that may exist as a result of adding hazards to the landscape. Each stressor that is identified is followed with specific actions or considerations that can be made to avoid or minimize negative effects.

Available online:

<https://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Power lines:

The Avian Powerline Interaction Committee (APLIC) is an industry-led collaboration with government and non-government conservation organizations that has identified several effective measures to reduce the risk of bird collisions with powerlines and their associated infrastructure. They have developed several publicly available resources:

[Reducing Avian Collisions with Power Lines – The State of the Art in 2012](#)

APLIC 2012, available online:

https://www.aplic.org/uploads/files/11218/Reducing_Avian_Collisions_2012watermarkLR.pdf

[Reducing Avian Collisions with Power Lines – The State of the Art in 2006](#)

APLIC 2006, available online:

[https://www.aplic.org/uploads/files/2613/SuggestedPractices2006\(LR-2watermark\).pdf](https://www.aplic.org/uploads/files/2613/SuggestedPractices2006(LR-2watermark).pdf)

[Avian Protection Plan \(App\) Guidelines](#)

APLIC 2005, available online: https://www.aplic.org/uploads/files/2634/APPguidelines_final-draft_Apr12005.pdf

[Eagle Risk Framework A Practical Approach for Power LinesSource](#)

APLIC 2018, available online:

<https://www.aplic.org/uploads/files/15798/APLICEagleRISKFramework-APracticalApproachforPowerLines-December132018FinalwAppendixPUBLIC.pdf>

[Best Management Practices for Electric Utilities in Sage-Grouse Habitat](#)

APLIC 2015, available online:

<https://www.aplic.org/uploads/files/15798/APLICEagleRISKFramework-APracticalApproachforPowerLines-December132018FinalwAppendixPUBLIC.pdf>

Wind Energy:

USFWS Land Based Energy Guidelines

U.S. Fish and Wildlife Service 2012, available online: https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf

Worldwide Wind Guidelines. Metrics and methods – tools for assessing impacts to birds and bats and addressing episodic mortality events

U.S. Fish and Wildlife Service 2011, available online: https://www.fws.gov/ecological-services/es-library/pdfs/worldwide_wind_guidelines.pdf

Wind power siting, incentives, and wildlife guidelines in the United States. Jodi Stemler Consulting, Denver, CO

U.S. Fish and Wildlife Service 2007, available online: <https://www.fws.gov/habitatconservation/windpower/AFWA%20Wind%20Power%20Final%20Report.pdf>

Guidelines for Information Requirements for a Renewable Energy Construction and Operations Plan

Bureau of Ocean Energy Management 2016, available online: <https://www.boem.gov/COP-Guidelines/>

Wind Power Siting, Incentives, and Wildlife Guidelines in the United States

U.S. Fish and Wildlife Service 2007, available online: <https://www.fws.gov/habitatconservation/windpower/AFWA%20Wind%20Power%20Final%20Report.pdf>

Wind energy: Great Lakes regional guidelines

The Nature Conservancy 2018, available online: <https://www.fws.gov/habitatconservation/windpower/AFWA%20Wind%20Power%20Final%20Report.pdf>

Bird-Smart Wind Energy

American Bird Conservancy 2019, available online: <https://abcbirds.org/wp-content/uploads/2019/05/bird-smart-wind-energy.pdf>

Building and Glass:

Reducing Bird Collisions with Buildings and Building Glass Best Practices

U.S. Fish and Wildlife Service 2016, available online: <https://www.fws.gov/migratorybirds/pdf/management/reducingbirdcollisionswithbuildings.pdf>

Best practices for data collection in studies of bird-window collisions

Smithsonian Conservation Biology Institute, Migratory Bird Center (year unknown), available online:

<https://www.fws.gov/migratorybirds/pdf/management/Lossetal2014bestpracticesforwindowdata.pdf>

Bird Safe Buildings Act

U.S. Congress 2019, available online: <https://www.congress.gov/bill/116th-congress/house-bill/919>

Communication Towers:

Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning

U.S. Fish and Wildlife Service 2018, available online:

<https://www.fws.gov/migratorybirds/pdf/management/usfwscommtowerguidance.pdf>

Opportunities to Reduce Bird Collisions with Communications Towers While Reducing Tower Lighting Costs

Federal Communications Commission 2017, available online:

<https://www.fws.gov/migratorybirds/pdf/management/fccopportunitiestoreducebirdcollisions.pdf>

Tower Owners: Save Birds! Save Money!

Federal Communications Commission 2017, available online:

<https://www.fcc.gov/guides/towers-and-birds>

Migratory Bird Treaty Act Conservation Opportunities Revisions to Federal Aviation Administration Obstruction Marking and Lighting Advisory Circular

U.S. Fish and Wildlife Service 2016, available online:

<https://www.fws.gov/migratorybirds/pdf/management/communicationtowerlightingfactsheet.pdf>

Oil and Gas Operations:

Contaminant Issues - Oil Field Waste Pits

U.S. Fish and Wildlife Service approximately 2009, available online:

<https://www.fws.gov/mountain-prairie/contaminants/contaminants1c.html>

Minimizing Risk to Migratory Birds in Oil and Gas Facilities

U.S. Fish and Wildlife Service, year unknown, available online: <https://www.fws.gov/mountain-prairie/contaminants/oilPits.php>

Fluid Minerals Operations Reducing Preventable Causes of Direct Wildlife Mortality

Bureau of Land Management 2012, available online: <https://www.blm.gov/policy/im-2013-033>

Open Pipes:

Reducing Preventable Wildlife Mortalities BLM IM 2016-023

Bureau of Land Management 2016, available online: <https://www.blm.gov/policy/im-2016-023>

Longline Fisheries and Marine Debris:

Agreement on the Conservation of Albatrosses and Petrels

Agreement on the Conservation of Albatrosses and Petrels 2018, available online: <https://acap.aq/en/acap-agreement/206-agreement-on-the-conservation-of-albatrosses-and-petrels/file>

Vehicles:

Road Vehicles

U.S. Fish and Wildlife Service, year unknown, available online: <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/road-vehicles.php>

Aircraft:

Aircraft

U.S. Fish and Wildlife Service 2016, available online: <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/aircrafts.php>

Appendix B. Applicable Statutes, Executive Orders, Policies, and Regulations

Fish & Wildlife

The Migratory Bird Treaty Act of 1918 (MBTA), as amended, (16 U.S.C. §§ 703–712)

Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. 668-668c, 50 CFR 22

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, and 450

Fish and Wildlife Act of 1956, 16 U.S.C. 742 a-m

Lacey Act, as amended, 16 U.S.C. 3371 et seq.; 15 CFR Parts 10, 11, 12, 14, 300, and 904

Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3853 (2001)

Cultural Resources

American Indian Religious Freedom Act, as amended, 42 U.S.C. 1996 – 1996a; 43 CFR Part 7

Antiquities Act of 1906, 16 U.S.C. 431-433; 43 CFR Part 3

Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa – 470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7

National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470-470x-6; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810

Paleontological Resources Protection Act, 16 U.S.C. 470aaa – 470aaa-11

Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001-3013; 43 CFR Part 10

Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Fed. Reg. 8921 (1971)

Executive Order 13007 – Indian Sacred Sites, 61 Fed. Reg. 26771 (1996)

Appendix C. Public Comments and Response

The following text discusses the substantive comments we received and provides our responses to them.

Comment: The Service should include an analysis of enforcement information that the agency acquired and considered leading up to and following issuance of M-Opinion 37050. Such information should include enforcement investigations and cases closed since December 2017, as well as recent agency efforts to collaborate with industry on best management practices and consultations with other federal, State and local agencies to minimize harm to birds.

Service Response: The Service agrees. Information on enforcement investigations conducted prior to December 2017 and our efforts to collaborate with industry on best management practices were included in the draft EIS. The Service does not currently have information on cases closed since then.

Comment: The Service should explain the differences between the No Action Alternative and Action Alternative A/Proposed Rule, and include an alternative that returns to the previous interpretation under M-Opinion 37041.

Service Response: The Service included the analysis requested by the commenter in the draft and final EIS.

Comment: The Service should add an alternative based on the House Bill - Migratory Bird Protection Act to include permits, including fees and mitigation costs. The commenter believes that creating a system that permits incidental take would align the MBTA, Bald and Golden Eagle Protection Act, and Endangered Species Act under similar frameworks and mechanisms, which would be a benefit to both industry and State wildlife agencies.

Service Response: We considered an alternative under which M-Opinion 37050 would be withdrawn, the Service promulgates a regulation defining what constitutes incidental

take of migratory birds, and subsequently establishes a regulatory general-permit framework. Under this framework, the Service could create general permits that provide legal coverage for a variety of activities that commonly incidentally take migratory birds. The Service eliminated this alternative from further review at this time because developing a general-permit system would be a complex process and better suited to analysis in a separate subsequent proposal if we were to select Alternative B. This alternative goes beyond the current purpose and need of simply providing regulatory certainty regarding the Service's interpretation of the MBTA as it relates to incidental take. For these reasons, it would be premature to discuss this alternative in detail under this proposed action. Thoroughly evaluating this alternative would instead require a separate detailed process to adequately define the parameters of such a permit system. Developing a general permit system would likely require the following at a minimum: determining reasonable and adequate conservation measures for different industries and activities that effectively reduce the impacts of the actions of private parties and government entities on over 1,000 bird species, whether a separate rulemaking would be required for each individual general permit, and how to authorize actions that do not fit within a general-permit category.

Comment: The Service should provide a detailed accounting of the number of birds that have already been lost due to M-Opinion 37050 and those that are likely to be lost in the future due to this opinion and the codification of the M-Opinion.

Service Response: Due to the lack of monitoring and industry reporting, we are unable to calculate any mortality estimates regardless of whether it occurred pre- or post-M-Opinion 37050. In the absence of quantitative data, we have provided qualitative analysis regarding the effect that interpreting the MBTA consistent with M-37050 is likely to have on migratory birds in this EIS.

Comment: The Service should include in the EIS all of the proven effective best management practices (BMPs) for avoiding and minimizing take of migratory birds.

Service Response: We recognize the availability of many BMPs, and in the draft EIS we provide many examples of industries that have employed best practices. It is not feasible or necessary to list every BMP known or used within this EIS.

Comment: There is a lack of bird survey data that can be used to assess accurately bird populations across the United States, thus making it impossible to conduct a scientifically defensible analysis of impacts on bird populations resulting from allowing incidental take.

Service Response: The Service is required to complete an effects analysis using the best science available. The Service reviewed multiple technical reports and bird trend summaries (e.g., State of the Birds and BBS) to develop a clear understanding of the current trend for bird populations. We have presented this data when relevant in this EIS.

Comment: Reports from oil spills indicate that only a small fraction of the mortality is counted correctly, thus, mortality estimates analyzed should be presented as underestimates.

Service Response: We based the summary of mortality from anthropogenic sources on the best scientific information currently available. The Service recognizes that these estimates may represent both over- and under-estimates depending on the mortality source.

Comment: In the draft EIS, the Service relied on studies that in some cases are more than 10 years old, and that do not consider newer technology and State regulations that result in a reduced threat to birds.

Service Response: The summary of mortality from anthropogenic sources was based on the best scientific information currently available. The Service recognizes that these estimates may represent both over- and under-estimates depending on the mortality source and that updating some older studies would present more contemporary, relevant information. We

will consider any updates to these studies in our management of migratory bird populations when they become available.

Comment: There are other statutes besides MBTA that protect birds, including NEPA, thus industry would still have to comply with some of these laws and thus birds would benefit. There are also State and local laws that would prevent the unnecessary killing of birds.

Service Response: The Service recognizes that there are numerous reasons why an entity would continue to implement best practices, including other federal or State laws, industry standard practices, public perception, etc. These mechanisms could reduce impacts to birds in some circumstances.

Comment: The Service should analyze how the proposed rule will impact other wildlife beyond birds, and specifically mentioned insects and mammals, including bats.

Service Response: The final EIS addresses the impacts of each alternative on other biological resources as well as cumulative and cultural impacts.

Comment: The Service should analyze how the proposed rule will impact human health and welfare.

Service Response: The Service agrees and has included an analysis of how the proposed action and alternatives will affect human health and welfare in the final EIS. We have also determined that there will be no disproportionate effects to disadvantaged communities under any alternative.

Comment: The various components of climate change (e.g., sea level rise, acidification of ocean environments, aridification of upland habitats) may have impacts on migratory birds and request that the Service provide specific analyses on how each of these components will affect each species protected by the MBTA.

Service Response: The effects of climate change on birds as described in the comment are outside the scope of this analysis. Our proposal is to codify an interpretation of the MBTA's application to incidental take of migratory birds. The effects of climate change on birds manifest as changes to the environment, such as changes in resource availability, changes in habitat quality, redistribution of species, etc. While climate change does not itself constitute incidental take, it is a threat to migratory birds. We considered climate change to be a cumulative effect in our analysis. Many impacts of climate change remain unknown at this time, thus making an accurate assessment of the incremental effect of climate change potentially increasing incidental take difficult to analyze in a quantitative manner. We have provided a qualitative analysis of the cumulative effects of climate change in this EIS.

Comment: The EIS should analyze impacts to migratory birds at the appropriate biogeographical scale. The Service should be clear about what data are being used for population trends, estimates, and mortality. The Service should be clear about what geographic scale is the basis for setting take limits. This should include an analysis at the sub-specific scale versus nationwide scale and highlight where data gaps exist for these subpopulations.

Service Response: The proposed rule is about clarifying the scope of the MBTA and codifying the correct interpretation regarding its application to incidental take. If we chose Alternative B and subsequently developed a general permit program, that would be the appropriate venue to discuss whether to define take limits and whether to manage migratory bird populations in that manner. Because developing a general permit program is beyond the scope of this proposal and analysis, there will be no take limits set for incidental take at any scale. Moreover, due to the lack of population data, sources of mortality for each species, it is not possible to analyze impacts at the sub-population or sub-specific level at this time.

Comment: The Service should include a discussion of E.O. 13186, its relevance and compliance with related to the proposed changes to MBTA, and how current conservation and mitigation of federal agencies would be affected. Include in the discussion how the proposed changes will impact existing MOUs and whether MOUs would still be required.

Service Response: Neither M-Opinion 37050 nor the proposed rule directly affect E.O. 13186. The E.O. refers to federal agency responsibilities to protect migratory birds as a result of the four bilateral international treaties that are implemented by the United States and is intended to broadly govern federal efforts to conserve migratory birds. Thus, the Executive Order will remain a valuable tool for federal agencies to work cooperatively with the Service to implement bird conservation strategies within their agency missions. Regardless of the alternative considered, each federal agency should continue to comply with the Executive Order and each agency with an MOU should continue to carry out that MOU, including any conservation measures that reduce incidental take.

Comment: The Service should analyze the changes in reporting to the Injury and Mortality Reporting system from before and after M-Opinion 37050, and consider how this rule will impact the reporting going forward and the consequences for bird conservation of this lack of information.

Service Response: The Service acknowledges that reporting of bird mortality by project proponents has likely decreased since the new M-Opinion was issued, and is likely to decrease further under the proposed alternative in the final EIS. To address any decrease in reporting, the Service will continue to reach out to various industries to seek voluntary partnerships that reduce incidental take through the implementation of conservation measures (e.g., project siting, changes in lighting, etc.) and increase data gathering on bird mortality. The Service also acknowledges in the final EIS that bird mortality is likely to increase under the

proposed alternative in the final EIS, but we do not expect the consequences of changes in reporting of bird mortality to have a significant effect on any increases in mortality.

Comment: The Service should analyze the additional risks that this rule could pose from wildfires by removing the legal incentive to prevent bird electrocutions, particularly raptors, in areas prone to wildfire.

Service Response: The Service acknowledges in the final EIS that the preferred alternative could result in increased mortality of birds, including raptors. The Service also acknowledges that many BMPs have been used to reduce mortality of birds. There is no prohibition on the continued retrofitting of powerlines by utility companies that are concerned about litigation risk associated with wildfires. In fact, the Avian Powerline Interaction Committee has guidance documents that assist utilities in retrofitting or new bird friendly designs. The recommendations are implemented on a voluntary basis and serve many purposes: reduce fire potential, improve utility service, protect birds from incidental death, etc. Further, federal agencies like the BLM and USDA-Forest Service may continue to request, under Executive Order 13186, that these utilities retrofit powerlines that cross federal lands susceptible to wildfires. Many States, federal agencies, electrical utilities, and other private parties fund, manage, or implement retrofitting plans to reduce mortality of eagles under the Bald and Golden Eagle Protection Act. Those efforts will continue and will benefit other bird species.

Comment: A more detailed, thorough and quantitative cumulative impacts analysis is required, including activities for which there are existing decisions, funding, or proposals, and that shows results at geographic scales from local to national populations of birds.

Service Response: The Service acknowledges in the final EIS that the preferred alternative could result in increased mortality of birds. The final EIS addressed the impacts of each alternative on birds and other biological resources as well as cumulative and cultural

impacts. Specific cumulative impacts are discussed throughout the analysis of the impacts of the various alternatives in addition to the specific discussion of broader cumulative impacts.

Cumulative impacts are generally discussed in a broader narrative manner because data is not available on the specific impact on migratory birds of every proposed federal, State, tribal, and private activity across the United States.

Comment: Sources of large-scale incidental take include oil spills, commercial fishing by-catch, building collisions, energy development, logging, lead, rodenticides, and domestic cat predation. The Service must consider and quantify the potential increased loss of birds from these industrial-level sources from the incorporation of M-Opinion 37050.

Service Response: The Service acknowledges in the final EIS that the preferred alternative could result in increased mortality of birds. The final EIS addressed the impacts of each alternative on birds and other biological resources as well as cumulative and cultural impacts. We currently have limited anecdotal data on the specific impact of the adoption of M-Opinion 37050. For example, as stated in the text above, technical assistance requests have declined since the implementation of M-Opinion 37050, but we have no data on how many entities continue to implement best practices.

Comment: The Service's preferred alternative will likely increase mortality of migratory birds, which may result in the need to increase the number of birds listed under ESA, cause species that had been delisted under the ESA to be relisted, and increase the risk of extinction. In addition, certain ESA listing decisions, such as a not-warranted determination or 4(d) rule, may have been determined with the understanding that the MBTA incidental take protections would still apply.

Service Response: The Service acknowledges in the final EIS that the preferred alternative could result in increased mortality of birds. The final EIS addressed the impacts of

each alternative on birds and other biological resources and the potential for each to be a contributing factor in the future ESA listing or relisting of migratory bird species. The Service has not issued any 4(d) rules or not-warranted determinations with the understanding that MBTA protections stemming from an interpretation that it prohibits incidental take would still apply.

The Service will continue to work cooperatively with partners to reduce the likelihood that a species will require listing under the ESA. The Service has determined that Alternative A will have no effect under section 7 of the ESA. The rationale for this decision is included in the final rule.

Comment: The MBTA is critical to habitat protection, and a specific example involving a federal agency where dredge spoil was not placed in breeding habitat of an ESA-listed species.

Service Response: We do not interpret the MBTA to protect migratory bird habitat. Under the prior interpretation that the MBTA prohibits incidental take reflected by Alternative B, the Service applied the MBTA—consistent with case law—to incidental take where the action itself takes migratory birds, and not to actions that may indirectly take birds at some unknown point in the future, such as via habitat destruction.

Comment: Some species listed as threatened under the ESA may have to be uplisted to endangered if the Service selected Alternative A in the final EIS. In particular, the Proposed Rule will harm species such as the streaked horned lark that have already been listed as threatened and subject to broad ESA section 4(d) regulations. In addition, given the FWS's recent elimination in the ESA regulations of automatic take protection for listed species (subject to the adoption of species-specific 4(d) regulations), the Proposed Rule will have extremely deleterious impacts going forward as the Service increasingly lists species as threatened without affording them any protections for incidental take under the ESA. These entirely foreseeable

effects of the action proposed by the Service must be analyzed in formal section 7 consultation under the ESA.

Service Response: The EIS acknowledges the potential impacts described by the commenter under each alternative. The Service has determined that adoption of Alternative A will result in “No Effect” under section 7 of the ESA.

Comment: A scientifically robust EIS must include reliable population data for each species at a given place and time, and how each industry affects each species at a given place and time. The current and future levels of take associated with each activity must be determined. The commenter also noted that aggregating bird declines has no meaning at the level of a species, and that various components of a species life history interact with industry impacts in a variety of ways. In the past year, assessments of uncertainty for the Partners in Flight estimates of landbird populations has been studied (Stanton et al. 2019); the paper discusses the sources of uncertainty in count data collected by the BBS.

Service Response: The Service is required to complete an impact analysis using the best science available. The Service reviewed multiple technical reports and bird trend summaries (e.g., State of the Birds and BBS) to develop a clear understanding of the current trend for bird populations. The Service acknowledges in the final EIS that the preferred alternative could result in increased mortality of birds. The final EIS addressed the impacts of each alternative on birds and other biological resources as well as cumulative and cultural impacts. The Service will continue to work cooperatively with partners to implement BMPs that reduce mortality.

Comment: In the absence of relevant data, model-based impact projections can be used to determine impacts on birds if the models have been tested and accepted by the scientific community. Examples of such modeling include population viability analysis (PVA), potential

biological removal models (PBR), and integrated population models. To use such a model for the conditions that would likely result from this proposed regulation, the USFWS would need to assume the maximum level of take that might be associated with a particular activity in a particular place.

Service Response: The Service is required to complete an impact analysis using the best science available. Developing new model-based projections is beyond the scope of a NEPA analysis covering implementation of a broad, nationwide rulemaking. The Service reviewed multiple technical reports and bird trend summaries (e.g., State of the Birds and BBS) to develop a clear understanding of the current trend for bird populations. The Service acknowledges in the final EIS that the preferred alternative could result in increased mortality of birds. The final EIS addressed the impacts of each alternative on birds and other biological resources as well as cumulative and cultural impacts. The Service will continue to work cooperatively with partners to implement BMPs that reduce mortality.

Comment: Analyzing impacts under NEPA means considering how the condition of a resource would change, either negatively or positively, as a result of implementing each of the alternatives under consideration. A written impact analysis should: (1) describe the impacts that each of the alternatives under consideration would have on affected resources; (2) use quantitative data to the extent practicable; (3) discuss the importance of impacts through consideration of their context and intensity; and (4) provide a clear, rational link between the facts presented and the conclusions drawn.

Service Response: The Service agrees in general with this description of a NEPA impacts analysis. The Service reviewed multiple technical reports and bird trend summaries (e.g., State of the Birds and BBS) to develop a clear understanding of the current trend for bird populations and our analysis is consistent with the points raised in this comment.

Comment: The final EIS must address the likely increase in insect populations caused by the foreseeable declines in the populations of insectivorous birds, and the increase in pesticide use that would foreseeably result. It must also address the impacts on bird-dependent predators that would result from the reduction in bird populations. These significant impacts are a foreseeable result of the Proposed Rule.

Service Response: The Service agrees there is a potential that insectivorous bird populations could decline, which could result in an increased use of pesticides. However, there are many other known or suspected causes of insectivorous bird declines such as habitat loss and climate change. We addressed these impacts in the EIS to the extent they were relevant based on available data.

Comment: Several commenters provided information on BMPs that industries were implementing, including varying levels of detail on the BMP itself, cost, perceived effectiveness of the BMPs, and plans for their continued use if the final EIS preferred alternative is adopted. Some commenters stated that their industries would continue to implement these BMPs independent of whether the new rule went into effect, citing the fact that they were continuing to use these BMPs even after M-Opinion 37050 went into effect, and noting that some of the BMPs cost little or nothing and resulted in improved relations with the public and regulatory agencies. Other commenters simply provided information on the BMPs without addressing whether they would continue to use them if the new rule went into effect. Two commenters noted that their industry had moved away from the use of oil pits, and were not likely to return to using them. Still other commenters stated that it was unlikely that industry would continue to implement BMPs if a cost were involved, citing specific examples since the adoption of M-Opinion 37050, and one commenter stated that he had conducted an overflight and had seen numerous uncovered

oil pits that would have been required to be covered under the Service's previous interpretation of MBTA.

Service Response: The Service recognizes that, while some BMPs like powerline retrofits are permanent, others, like covering oil pits at drilling sites, are temporary, and that there are multiple variables driving whether industries will continue to implement these BMPs if the preferred alternative in the final EIS is selected. The Service's analysis in the final EIS reflects the likelihood that fewer BMPs will be implemented in the future under the preferred and the No Action Alternative, but concludes that the incremental effects on BMP implementation of each alternative are not possible to quantify at this time.

Comment: The Service must analyze the anticipated impacts on the behavior of industry actors that will result from rejecting the Service's longstanding interpretation that the Act prohibits incidental take. This analysis must include any changes with respect to the following measures for avoiding migratory bird mortality: The use or non-use of closed containment systems to exclude migratory birds from oil, gas, and wastewater disposal pits; the use or non-use of netting to exclude migratory birds from oil, gas, and wastewater disposal pits; the practice of removing perches (or use of perch deterrents) from methane and other gas burner pipes at oil production sites; the practice of covering pipes and other small openings to minimize take from methane and other gas burner pipes at oil production sites and other locations; ; the use or non-use of recommended siting practices for wind turbines to minimize collisions; the use or non-use of recommended siting practices for communications towers to minimize collisions; the use or non-use of design features such as appropriate lighting, shorter tower heights, and eliminating or reducing the use of guy wires to minimize collisions with communications towers; the use or non-use of avian-safe pole and equipment design in electric transmission and distribution lines to

minimize electrocution and collision; and the use or non-use of recommended siting practices for electrical transmission and distribution lines to minimize collisions and electrocutions, see *id.*

Service Response: The Service requested feedback on the types of avoidance, minimization, and mitigation measures noted by the commenter that are currently employed, as well as the extent which avoidance, minimization, and mitigation measures will continue to be used if this proposed rule is finalized. The Service's analysis in the final EIS includes analysis of implementation of specific measures for which we have available data. Overall, the EIS reflects the likelihood that fewer BMPs will be implemented in the future if the draft rule is finalized.

Comment: Following issuance of M-Opinion 37050 and the Service's guidance, documents obtained through the Freedom of Information Act ("FOIA") from the Service and attached to these comments show confusion among Service enforcement agents and other officials, closing of active investigations into bird deaths, abandonment of minimization and mitigation measures to offset bird deaths, and a cessation of reporting of bird deaths by the oil and gas industry and others. In one of the more egregious examples, the Virginia Department of Transportation abandoned plans to provide alternate habitat for as many as 25,000 seabirds that were losing their habitat to construction of the Hampton Roads Bridge Tunnel. Prior to the shift in enforcement, the department planned to build a new island for the seabirds since the one they were using was being paved over for construction. Following M-Opinion 37050 and FWS guidance, this effort was abandoned. Fortunately, Virginia's decision to let the birds die received widespread coverage, including in the New York Times, and Governor Ralph Northam stepped in and committed to providing alternate habitat while emphasizing the uncertainty and unnecessary havoc caused by M-Opinion 37050.

Service Response: The MBTA does not and never has protected migratory bird habitat when destruction or modification of that habitat does not directly take birds. In the

example given, the State agency's action to pave over an island used by seabirds as breeding habitat would not result in incidental take under our prior interpretation of the MBTA so long as the action does not directly take any birds or eggs (for example, if it occurred outside the breeding season as proposed). Thus, any proposal to remove habitat that does not directly kill birds would not be covered under the scope of the MBTA prohibitions under any of the Alternatives presented. The lack of enforcement due to the 2017 M-Opinion is not relevant to this issue of habitat removal, as no enforcement would have taken place even prior to the 2017 M-Opinion. The Service acknowledges in this EIS that the Department will not enforce the MBTA in cases of incidental take under the preferred alternative and the No Action Alternative.

Comment: Consistent with the agency's own policy, and OMB's guidance on peer review of governmental science documents, it is essential that the scientific components of the EIS be subjected to rigorous, external peer review because it concerns the fate of all migratory birds, which is a main significant biological resource of North America.

Service Response: The NEPA process, including scoping, all public comment periods, and interagency review conducted by OMB all allow for input into the process from support to opposition, to providing additional data and information to commenting on scientific aspects of the analysis or proposal.

Comment: The Service's record of successful enforcement of the MBTA's prohibition of incidental take has created a crucial incentive for industry to work collaboratively with federal and State fish and wildlife agencies to evaluate and implement proactive, cost--effective measures to avoid, minimize and mitigate incidental take of birds. As such, perhaps the greatest success of the MBTA has been to create a platform for collaborative partnerships between industry, non-profits, and local, State and federal government agencies to leverage public and private resources for proactive conservation of this resource. Through these efforts, the MBTA

has become less regulatory and more collaborative over time, reducing the frequency of costly enforcement. The key to this evolution has been the consistent, responsible implementation of the MBTA and its prohibition of incidental take. The Service, and the State fish and wildlife agencies that rely upon the MBTA, have rightly focused on projects and activities that have the potential to result in significant, population-level impacts to migratory birds. Federal and State wildlife agencies have avoided enforcement where there is not a causal connection between the activity and the take of birds. The consistent and appropriate implementation of the MBTA has resulted in greater regulatory certainty over time, helping ensure predictability for industry and government alike.

Service Response: The Service will continue to work collaboratively with its partners to implement best management practices, independent of which alternative is selected from the final EIS. We do not agree that exercise of enforcement discretion for incidental take would provide greater regulatory certainty than a regulation codifying our interpretation of the MBTA. This EIS analyzes the impact on regulatory certainty of each alternative.

Comment: The Service must analyze how the proposed rule will impact the large-scale conservation planning efforts and objectives of federal, State, tribal and local governments, including the North American Waterfowl Management Plan (NAWMP), the United States Shorebird Conservation Plan, North American Colonial Waterbird Plan, Resource Management Plans (Bureau of Land Management), National Forest and Travel Management Plans (U.S. Forest Service), and General Management Plans (National Parks Service).

Service Response: The Service addressed land-use planning in the final EIS. The preferred alternative is not expected to significantly impact the management plans specified by the commenter. Overall, these plans strive to address bird conservation for landscape scale issues and do not address specifically incidental take. The Service continues to work to conserve

migratory bird habitats and promote connectivity through partnerships and actions covered in these plans.

Comment: Several Indian Tribes noted that the proposed rule could negatively impact bird species that are considered sacred or are otherwise important to them, and that proposed changes to the MBTA fall far short of the United States' obligations to Indian Tribes.

Service Response: The Service acknowledges in the final EIS that any increase in the incidental take of migratory birds, as a result of adopting the no-action or preferred alternative, is likely to negatively affect species that are culturally important to native peoples. The Service is responding to and engaging in Government-to-Government consultation when requested. To date the Service has discussed this rulemaking with at least three tribes and expect to discuss with others prior to the publication of the final rule.

Comment: The proposed rule creates a gap in financial obligations when mass-scale incidental takes occur. The commenter asked if the Service will be establishing a fund of a few hundred million dollars to take the place of these fines to pay for clean-up and restoration efforts and, if not, where the Service anticipates such needed funds will originate.

Service Response: The Service agrees that the preferred alternative will eliminate all MBTA fines associated with incidental take of migratory birds, regardless of whether a few or many birds are impacted. This has been noted in the final EIS. Congress has established the North American Wetland Conservation Act, which is where fines levied under the MBTA are deposited. Congress would need to act to provide additional NAWCA funds (or any other funds for this general purpose). The Service may not create or authorize any funding obligation in excess of the amount available in the relevant congressional appropriation or fund unless specifically authorized by law. The Service thus has no plans to establish a fund specific to mortality caused by incidental take.

Comment: Numerous commenters recommended developing the 2015 MBTA proposal to develop and implement a program that works with industry to identify best practices to avoid or minimize avian mortality. These best practices could be implemented through a conditioned permit system, where enforcement focused on the implementation of these best practices. This permit system should include mitigation and permit fees that could be used for monitoring and oversight. Service to influence the siting of projects to reduce their impacts on migratory birds. This will force industries to operationalize conservation practices at the front end – from siting to design – when they are most important. A well-designed permit system will also create efficiencies for industry by removing regulatory uncertainty for developers and investors. Permit holders would have no risk of prosecution provided they comply with the terms of the permit. Further, it will discourage actors who fail to avoid, minimize or mitigate for the impacts of their activities from gaming the system and taking advantage of the Service’s limited prosecutorial resources.

Service Response: We considered an alternative under which M-Opinion 37050 would be withdrawn, the Service promulgates a regulation defining what constitutes incidental take of migratory birds, and subsequently establishes a regulatory general-permit framework. Under this framework, the Service could create general permits that provide legal coverage for a variety of activities that commonly incidentally take migratory birds. The Service eliminated this alternative from further review at this time because developing a general-permit system would be a complex process and better suited to analysis in a separate subsequent proposal if we were to choose Alternative B. This alternative goes beyond the current purpose and need of simply providing regulatory certainty regarding the Service’s interpretation of the MBTA as it relates to incidental take.

Comment: Under the preferred alternative, industry will likely cease implementation of BMPs to protect birds unless the industry was suffering economic damage that was associated with bird mortality, and that this worst-case scenario should be analyzed in the EIS.

Service Response: The Service acknowledges in the final EIS that the preferred alternative would increase legal certainty for industry, and that fewer entities would likely implement best practices compared with the no action alternative, resulting in increased bird mortality. This could also increase the rate and severity of cumulative anthropogenic effects on birds as compared with the no-action alternative.

Comment: Potential impacts to species protected by the Endangered Species Act are not discussed in sufficient detail to meet the necessary NEPA legal standards.

Service Response: The Service acknowledges in the final EIS that the preferred alternative could result in increased mortality of birds. The final EIS addresses the impacts of each alternative on birds and other biological resources as well as cumulative and cultural impacts. The Service has determined under section 7 of the ESA that the preferred alternative will have “no effect” on listed species. Because the ESA prohibits incidental take for all listed species, including those that are also protected under the MBTA, we do not expect any of the alternatives to codifying the scope of the MBTA as it relates to incidental take will have an effect on ESA-listed species.

Comment: Adopting the preferred alternative will make compliance more complex, rather than simpler, because project proponents will be required to comply with numerous State protections instead of a single federal standard.

Service Response: The Service disagrees. Project proponents have always had to comply with federal and State statutes and regulations related to conservation of migratory birds. That does not change under any alternative. However, the Service acknowledges in this EIS that

it is possible some States will enact separate incidental take protections in response to adopting Alternative A or the No Action Alternative, which could create additional complexities in some jurisdictions. If the Service adopts the preferred alternative, industry will have greater legal certainty under federal regulations, thereby making compliance simpler in most jurisdictions.

Comment: The “no action” alternative is not appropriate and should instead analyze the status quo before the withdrawal of M-Opinion 37041. Consequently, the NEPA analysis must include detailed descriptions of how implementation of M-Opinion 37050 has impacted birds covered by the MBTA by removing protection from incidental take. The Service is conducting a NEPA analysis after-the-fact, which hampers a fair public understanding of the proposed action, alternatives, and likely impacts. The Service is not permitted to assume the appropriateness of a significant reinterpretation of federal wildlife law. This must be the baseline against which the proposed rule and other alternatives are compared. Using the a baseline that is established post-2017 interpretation would constitute an abdication of the Service’s responsibility under NEPA both to take a hard look at the potential environmental consequences of the Proposed Rule and to ensure that the public is fully informed about the potential environmental consequences of finalizing it. The Service’s incorrect designation of the No Action Alternative also violates the APA.

Service Response: The No Action Alternative correctly analyzes the status quo in the absence of the proposed action as required by NEPA. That status quo is governed by our current interpretation of the MBTA as not applying to incidental take, consistent with the interpretation presented by M-37050 and clarified in the preamble to the proposed rule. The affected environment at the time of our proposal provides the environmental baseline for examining the impacts of adopting each alternative.

Contrary to the commenter's assertion, adopting a no action alternative premised on the Department's interpretation of the MBTA prior to M-37050 would be inaccurate, improper, and thus contrary to both NEPA and the APA. Moreover, the Service did not assume the appropriateness of the interpretation provided by M-37050 as alleged by the commenter. Instead, we provided a detailed analysis of exactly why we are adopting that interpretation in the preamble to the proposed rule. Thus, the Service included an alternative that analyzed the impacts of returning to the prior agency practice of enforcing the MBTA in the context of incidental take. Thus, we have analyzed any effects associated with the commenter's proposed no action alternative and compared them to the preferred alternative. For these reasons, we consider our analysis of the No Action Alternative, the environmental baseline, and the effects of the reasonable alternatives to be consistent with both NEPA and the APA.

Comment: The reasonable range of alternatives required by NEPA should include a "reasonable number of examples covering the full range of alternatives." CEQ Forty Questions, No. 1 b. Furthermore, FWS may not limit its consideration to only those alternatives it believes it has the authority to implement. Rather, the alternatives should be wide-ranging and include options that may require additional approvals or participation by others. *Sierra Club v. Lynn*, 502 F.2d 43, 62 (5th Cir. 1974); *see also Alaska Wilderness Recreation and Tourism Ass'n v. Morrison*, 67 F.3d 723, 729 (9th Cir. 1995).

Response: The Service included a reasonable range of alternatives in the DEIS. The Service also considered alternatives it does not have the authority to implement, such as the gross negligence standard not carried forward for detailed analysis. The Service also included an alternative at odds with its current interpretation of the MBTA in Alternative B and considered, but did not analyze, an alternative based on that different interpretation—developing a general permit framework to authorize incidental take.

Comment: The FWS purpose and need for the DEIS should be to evaluate what regulatory revisions would best serve the statutory MBTA purposes, as well as achieve compliance with the related treaties with other nations

Response: The purpose and need in the FEIS accurately reflect our proposal, which best serves the statutory purpose of the MBTA as we interpret it. This approach is consistent with the Conventions underlying the statute, as explained in M-37050 and the preamble to the proposed rule.

Comment: Environmental regulations employs a silent army of many people. According to the career advice website Vault, 171,024 workers are employed in fields that are supported in part by the MBTA. MBTA-generated tasks include planning for nesting birds by environmental planners and searching for active nests prior to vegetation removal by wildlife biologists and environmental scientists. GIS specialists map nest sites and nesting areas (Vault had no data for this career category). The 171,024 US workers was derived from combining the following from Vault: 35,480 environmental planners, 32,320 biological scientists, 84,250 environmental scientists/environmental specialists, and 18,970 zoologists and wildlife biologists. The website had separate categories for ecologists and GIS specialists but no totals were provided. See: <https://www.vault.com/>.

Service Response: The Service does not expect any of the alternatives to have effects on environmental jobs as proposed by the commenter.

Comment: Several commenters noted that the Service's preferred alternative could lead to additional bird population declines, and requested that we quantify the level of declines specifically associated with adoption of the preferred alternative, provide demographic data at multiple geographic scales, develop models such as population viability analyses, and estimate additive and compensatory mortality.

Service Response: The Service does not have the data or existing models to quantify additional mortality and associated population declines attributable to the No Action and preferred alternatives. Collecting them and developing appropriate models is beyond the scope of a NEPA analysis. Without these data and models, any quantified estimate of additional population declines would be highly speculative, since we cannot estimate the extent to which industry would continue to employ conservation measures that were required prior to the implementation of M-Opinion 37050. The EIS concludes that the No Action Alternative and Alternative A will likely lead to incremental increases in population declines for some species based on the best available information.

Comment: Alternative A does not sufficiently analyze the extent to which industry would continue to incorporate mitigation measures in their projects. The Service should provide a "tangible and enforceable" mitigation strategy. The Service offering to expand and promote its work to develop best management practices is incongruent with the likelihood under Alternative A that fewer project proponents would need to work with the Service since mitigation would not be a requirement.

Service Response: The Service is unable to quantify the extent to which industry will continue to employ mitigation measures in their projects for several reasons. First, mitigation is expensive for some industries and nearly without cost for others. Assuming cost is the major driver of whether an industry will continue to follow best management practices, the Service would need to have data on these costs. The Service does not have these data. Second, because the Service does not have quantitative data on the efficacy of best management practices, it is impossible for us to estimate the additional mortality and population declines that would occur specifically associated with the codification of Alternative A. As we stated in both

the draft and final EIS, the Service will continue to work with willing partners to employ best management practices.

Comment: Decreased use of best management practices and "loss of funding for wetland conservation" could impact water resources. Incidental take of birds due to loss of water resources is likely under Alternative A.

Service Response: The Service has noted in both the draft and final EIS that selection of Alternative A may result in increased bird mortality, but we do not have data to quantify any increase over the No Action Alternative or in relation to Alternative B. We have not analyzed the impacts of the alternatives on water resources and floodplains for the reasons described in section 3.3 of the EIS.

While it is possible that selection of Alternative A could lead to some "loss of funding for wetland conservation," it is not certain that any loss will occur. It is true that fines under the previous interpretation of MBTA were directed to the North American Wetland Conservation Act funding mechanism, and that those funds were directed to wetland conservation and restoration. However, these fines were extremely rare - the last major fine was as a result of the Deepwater Horizon oil spill in 2010 - and impossible to predict or analyze. Congress will continue to provide funds under NAWCA, as well as the recently passed Great American Outdoors Act, which will permanently fund the Land and Water Conservation Fund.

Comment: One commenter provided information on federal and State requirements to use best management practices to avoid harm to migratory birds in and around oil pits.

Service Response: The Service appreciates this information. While the Service has no control over State regulations and guidance, the MBTA regulation will clarify that best management practices are not required because incidental take is not prohibited by the MBTA.

Comment: The Service must engage in government-to-government consultation with tribes. The small number of consultations requested by tribes indicates that outreach was insufficient. In addition, as a result of the public comment process, several tribes requested formal consultation.

Service Response: All consultations requested by tribes have been initiated and completed by the Service, and all concerns posed by the tribes in their public comment letters were addressed through the consultation process and responded to in this Appendix.

Comment: The National Oceanic and Atmospheric Administration, which enforces the Endangered Species Act for some species, noted, “It would be helpful for NOAA to have more discussion on the statement that “None of these alternatives directly affect the implementation and enforcement of the Endangered Species Act,” as our Biological Opinions carry provisions related to MBTA prosecution. In the past, as long as the terms and conditions are met, no incidental take is referred for prosecution under the MBTA. So there seems to be some nexus there that would helpful to understand as a comparative point across these alternatives.”

Service Response: Under the preferred and No Action alternatives, NOAA would have no need to include provisions regarding incidental take of migratory birds in its biological opinions. We will work with NOAA if any issue arises relating to any current NOAA Biological Opinions containing conditions related to MBTA prosecution for incidental take.

Comment: A utility company expressed concern over the Service’s preference for Alternative A, given the negative environmental impacts of the analysis. Alternative A has no positive environmental impacts and questionable economic impacts. While the utility appreciates the intent of providing legal clarity as it relates to incidental take of migratory birds, the preferred Alternative A presents long-term financial risk to utilities. Given the likelihood that this change could result in more avian species being listed by both State and federal agencies,

this indirect impact would result in greater requirements needed to minimize impacts to these species.

Service Response: The Service explains in this EIS the negative environmental effects and potential economic effects likely to occur under Alternative A. While it is possible that adopting Alternative A may result in greater long-term financial risks to some entities, the Service concludes that it is more likely that financial risks will decrease for many entities because of the increased clarity of the regulation, and reduced cost of compliance.

Comment: The Service has not complied with the requirement to complete a Section 7 consultation under the Endangered Species Act.

Service Response: The Service has completed an ESA Section 7 consultation and determined that this action has no effect. Please refer to the appropriate section of the final regulation for the complete analysis.

Comment: Transboundary issues were not sufficiently analyzed in the DEIS. These issues include ecological, aesthetic, historic, cultural, economic, social, and health effects in other countries where migratory birds spend parts of their lives. The commenters requested a more in-depth analysis of these issues. Specifically, in regards to the options put forward in the Draft EIS, the Government of Canada believes the preferred option of the USFWS (Option A) is inconsistent with previous understandings between the Canada and the United States (U.S.), and is inconsistent with the long-standing protections that have been afforded to non-targeted birds under the Convention for the Protection of Migratory Birds in the United States and Canada (the “Treaty” or the “Convention”) as agreed upon by Canada and the U.S. through Article I.

Service Response: The Service acknowledged in the DEIS that the preferred alternative could result in negative transboundary effects and conducted a sufficiently detailed analysis of those effects. The Service—in coordination with the State Department, which has the

lead in discussions with other bilateral treaty nations—will continue to discuss and work to address any transboundary effects with treaty partners. We also received a comment letter from the Government of Canada, which we address below. We did not receive any specific data on transboundary effects during the public comment period for the DEIS that would merit additional analysis.

Comment: The Regulatory Impacts Analysis uses nonspecific examples of indirect costs, such as: higher premiums on industry loans, financial capital, and insurance associated with the risk of liability, and the cost to the economy from business opportunities that are foregone due to the risk associated with prosecution, which, according to the analysis, “inhibits otherwise lawful conduct.” Every cost-benefit statement in that analysis is qualified with, “The Service does not have information available to quantify these potential [costs/benefits].” If neither impacts nor benefits can be quantified because the DEIS and the Impacts Analysis lack the data, then neither document is scientifically supportable.

Service Response: We are required to use the best available data to analyze the impacts and benefits of alternatives in a NEPA document. Though NEPA itself does not explicitly require the use of “best available data;” it does require that information be of “high quality” and that the agency “insures the professional integrity, including scientific integrity” of the discussion and analysis in an EIS. 40 CFR 1500.1, 1502.24. However, our obligations under other authorities, such as the Information Quality Act and Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554), do require use of the best available data. An agency may also query the public for additional information during the public comment period on a draft EIS. While the Service always seeks more data on the impacts of its decisions, the Service must make a determination based on the best available data. Where possible, we have provided a quantitative analysis of economic impacts. Where we have

insufficient data for a quantitative analysis, we have provided a qualitative analysis that provides our best estimate of the economic impacts of the proposed rule and alternatives.

Comment: The Service should suspend its activities on this rule in light of current ongoing legal proceedings regarding the M-Opinion.

Service Response: The court has now ruled in the case in question and vacated M-37050. The Service has updated the final EIS to incorporate that ruling.

Comment: The draft EIS did not consider the burden that will be placed on State wildlife agencies should federal incidental take protections be removed. Most States currently have no regulations addressing incidental take, and do not have the background or expertise to develop or implement such regulations. The Virginia DWR has taken steps towards developing state-level incidental take regulation and appreciates that the enactment of such a regulation will be very complicated. In addition, regulations developed for Virginia will likely differ from those enacted by other States, making cooperative management of migratory bird resources much more difficult. We encourage the Service to consider the additional regulatory burden and costs to industry that will likely result from having to adhere to differing regulations promulgated by individual States versus just one federal law.

Service Response: Industry already is required to comply with both State and federal regulations pertaining to migratory birds. The Service encourages industry to take voluntary actions to conserve migratory birds and encourages States to adopt migratory bird protections that are similar such that compliance is simpler for industries that work across State lines. We conclude in our EIS that, on balance, Alternative A will reduce the regulatory burden on economic activities that incidentally take migratory birds. The federal regulatory and legal burden on State agencies would also be reduced under the preferred alternative because those agencies would not be required to comply with the MBTA when engaging in actions that could

incidentally take birds and would encounter no legal risk when authorizing third-party actions that could result in incidental take.

We also note that the MBTA specifically provides that States may make or enforce “laws or regulations which shall give further protection to migratory birds, their nests, and eggs.” 16 U.S.C. § 708.

Comment: Four members of Congress requested that the Service withdraw the draft rule and instead adopt the provisions of House Bill H.R. 5552, the Migratory Bird Protection Act of 2020.

Service Response: The Services appreciate the input from Congress and acknowledges there is some support for HR 5552 both in Congress and by the public. Should this bill pass both houses of Congress and be signed by the President, the Service will implement the new statute or any amendments to the MBTA as appropriate.

Comment: The preferred alternative does not comply with 40 CFR 1502.1 by avoiding or minimizing impacts.

Service Response: NEPA requires that the Service examine a range of alternatives that meet the purpose and need and analyze reasonable alternatives that would avoid or minimize adverse impacts on the environment. NEPA does not require that an agency select the alternative with the least environmental impact although it does require that an agency designate which alternative is environmentally preferable when it issues a Record of Decision on an EIS. See 40 CFR 1505.2(b). The Service will do so. The Service concludes that the preferred alternative is a legally prudent approach that also reduces regulatory burdens on regulated entities and has assessed potential mitigation measures that could reduce the impacts of the preferred alternative.

Comment: A utility group stated Alternative A is the most appropriate alternative, as it would balance the need for regulatory certainty with protecting migratory birds from

intentionally harmful acts. Utility members and the public at large will benefit because Alternative A clarifies what constitutes a violation of the MBTA while they operate their businesses across the nation and continue to implement avian protections measures. Importantly, the utility group's members remain committed to minimizing incidental bird takes if Alternative A is finalized and look forward to working with the Service to advance avian protection associated with critical energy infrastructure.

Service Response: The Service agrees with this comment and appreciates that the utility group will continue to work with the Service to minimize incidental take of migratory birds caused by its activities.

Comment: The DEIS does not even acknowledge, let alone substantively address, the more than 198,000 public comments calling on the agency to reverse course and reinstitute protections for birds. Detailed comments critical of Interior's drastic reinterpretation of the MBTA and recommended alternatives have been submitted by concerned citizens, scientists, hunters, tribal interests, three Flyway Councils, more than a dozen State wildlife agencies, 70 Members of Congress, more than 100 NGO's, and more than 250 former Interior officials.

Service Response: The Service acknowledges and appreciates the many comments the public has provided on this topic, and has addressed substantive comments in the final EIS. Comments received on the proposed rule and in response to our scoping notice were considered in compiling the draft EIS.

Comment: I also reject the argument that a Gross Negligence Approach could not be developed. The DEIS produces a glob of word salad while ignoring that MBTA already is a strictly liability statute and that for almost 50 years USFWS has worked with and warned parties in incidental take incidences. There is no ambiguity of mental state when a party has been told about their potential liability and USFWS has made an offer to work with the party to reduce or

eliminate incidental take. Therefore, the parties know of the risk of continuing to take birds and continuing that activity is clearly negligence. Again, this demonstrates that DOI is acting to achieve a predetermined outcome to the favor of specific parties instead of acting with impartiality.

Service Response: The Service appreciates the comment but notes the commenter's statements regarding gross negligence and strict liability are internally inconsistent. Gross negligence is a mental state requirement in criminal law. Strict liability is the absence of a mental state requirement. Thus, the two are mutually exclusive. Therefore, we stand by our reasoning in the DEIS that a gross negligence standard is legally unsupportable given that the vast majority of courts interpreting the MBTA have concluded the MBTA's misdemeanor provision is a strict-liability crime. We regret any confusion on this matter and have clarified our reasoning for rejecting that alternative to make it easier to understand for the general public.

Moreover, by adopting the preferred alternative, the Service will be able to provide the public clear and legally unambiguous guidance on what take is covered by the MBTA.

Comment: A State agency concurs with the recommendation made by the Atlantic Flyway Council to establish a committee of business, legal, and conservation experts to assess modern issues associated with implementing the MBTA. These efforts would include identifying BMPs to reduce or avoid avian mortality, evaluating how to incentivize their use, and developing a constructive course of action that is consistent with the mission of the USFWS and its State-agency partners.

Service Response: The Service already has a robust suite of partners with whom it works to address MBTA issues and this regulation and EIS are products of that collaboration. The Service will work to strengthen and expand those partnerships, including working through the Atlantic Flyway Council, to explore the efforts suggested by the commenter.

Comment: A conservation organization stated, as practitioners of the MBTA, we never misunderstood the intention of the MBTA prior to the issuance of M-37050. We always interpreted the law as including incidental take. The entire premise that legal certainty is required for effective enforcement of the law is flawed and inconsistent with long-standing practice. Prosecutorial discretion is not equivalent to uncertainty, but is a common practice in law enforcement across this country.

Service Response: The Service received several comments that support our approach that provide the improvement of legal certainty as a primary reason for that support. Despite the commenter's experience, many practitioners from different industries have voice concern, at times, over the Department's prior approach of using enforcement discretion. Concerns range from uncertainty in regulation and enforcement to the difficulty legal uncertainty creates in obtaining financing for projects. Numerous articles in industrial and legal journals have documented the reality of legal uncertainty for the regulated community under the prior interpretation. *See, e.g.,* Development of a Permit Program for Incidental Take of Migratory Birds, prepared for the Interstate Natural Gas Association of America by Holland & Hart (2010); and Decriminalizing the Inevitable: Some Hope for Rationalizing the MBTA?, by Clements & Murdock at Hunton Andrews Kurth LLP (Dec. 14, 2017). Enforcement and prosecutorial discretion can be an effective means of implementing a statute where the statute's language regarding criminal conduct is clear. That is not the case with the MBTA and a primary reason why we proposed a rule to define its application to incidental take.

Comment: Several commenters provided editorial suggestions such as including a table of contents and literature citations.

Service Response: The Service has made minor edits as applicable.

Comment: The Service documents the negative impacts of birds, including avian influenza, but does not note that diseases are also transmitted by other animals, nor outline the benefits of birds.

Service Response: The Service agrees that animals other than birds transmit zoonotic diseases, and that birds also have benefits. Transmission of diseases by other animals is not a relevant impact in this proposal to codify a regulation that interprets whether the MBTA applies to the incidental take of migratory birds. We have included information on the environmental benefits provided by birds where relevant.

Comment: USFWS should present the environmental impacts of the proposed action and alternatives in a comparative form, thus sharply defining the issues and providing a clear basis for choice among options for public review (40 CFR 1502.14).

Service Response: The Service agrees and included a summary table in the draft and final versions of the EIS that highlight the differences among the alternatives. We discuss the comparative impacts of each alternative throughout the EIS, particularly where there is a noticeable difference between alternatives regarding a particular impact.

Comment: Some commenters noted concerns about spills of oil and other chemicals, and requested more information on costs of spills to taxpayers in the absence of MBTA penalties under Alternative A.

Service Response: The Service has no information of this type and no means of reliably estimating any additional costs to taxpayers that may indirectly occur through our change in interpretation eliminating penalties obtained from large oil spills. Such spills are low probability events and damages could range from little impact to catastrophic depending on its geographic location, the species in that area, and many other factors. Thus, predicting the loss of

penalties from future oil spill events and in turn forecasting additional costs to taxpayers from any future shortfall would be largely speculative.

The EIS provides information on the amount of damages from MBTA penalties for the Deepwater Horizon spill, which provides a likely upper-bound estimate for fines obtained from those responsible for large-scale oil spills. Those penalties were deposited in the North American Wetlands Conservation Act (NAWCA) fund for acquisition of habitat for waterfowl. Congress may also appropriate additional funds for that account and could choose to do so in the absence of funding from MBTA penalties, which in turn could lead to additional costs to taxpayers.

Comment: The Service should provide more specific information on the number of enforcement actions that have been undertaken during several time periods, whether the burden on law enforcement will be reduced, and instances where law enforcement discretion has been used not to enforce the MBTA.

Service Response: The Service does not have statistics compiled on numbers of enforcement actions taken for several different time periods and has no compiled or summarized information on total or average number of investigations that did not lead to a civil citation or enforcement action. The Service provides a summary of law enforcement investigations for a sample period between 2010 and 2018, which provides the average annual number of investigations initiated for incidental take caused by various activities in section 2.3 of the EIS. Based on that information, the Service reasonably concludes that its enforcement burden will be reduced under the preferred alternative given that it eliminates the basis for those investigations.

Comment: Several commenters requested a more in-depth analysis of direct, indirect and cumulative impacts.

Service Response: The Service does not have further information available on direct, indirect and cumulative impacts; its current analysis adequately describes the context and

intensity of known direct, indirect, and cumulative impacts of the alternatives. The Service incorporated information submitted during the public comment period where appropriate.

Comment: One commenter provided information on regulatory requirements for covering oil pits in Wyoming.

Service Response: The Service considered the information provided by the commenter in developing this final EIS. Though the Service does not control State regulations for the protection of migratory birds, such information is helpful in determining the indirect effects of the proposed action and alternatives or the lack thereof.

Comment: The Service should provide more analysis of the ecosystem services provided by migratory birds, and how adoption of the preferred alternative could alter the level of services provided.

Service Response: The Service does not have further information available on ecosystem services; its current analysis accurately depicts how adoption of the preferred alternative could alter the level of ecosystem services provided by migratory birds.

Comment: The Service should provide more in-depth analysis on projections of incidental take of migratory birds under each alternative, as well as a list of all anthropogenic causes of incidental take.

Service Response: The Service provided the available information on anthropogenic causes of incidental take and the expected impact of incidental take under each alternative. We did not receive additional information on anthropogenic causes of incidental take during the comment period.

Comment: The Service's analysis does not meet the threshold of a "hard look" at environmental consequences as required by NEPA and CEQ regulations, and that the scientific analysis was insufficient.

Service Response: The Service noted in the EIS that it is difficult to predict industry behavior under each alternative and little information or data is available to aid in predicting that behavior. Potential changes in industry behavior (e.g., implementation of conservation measures to reduce incidental take) are the main driver for any incremental changes that may occur under each Alternative. The paucity of this data makes it difficult to conduct analyses with any level of quantitative precision; thus, we provided qualitative estimates of those impacts based on our best estimate of those impacts on different environmental resources.

Comment: The EIS should contain a more in-depth analysis of subsistence hunting.

Service Response: The Service does not have further information available on subsistence hunting. Government-to-government consultations with tribes were conducted, and issues regarding subsistence hunting were addressed in those consultations as applicable.

Comment: The "Affected Environment" section of the EIS should include more in-depth analysis, including reviews of literature repositories such as the American Wind Wildlife Institute.

Service Response: NEPA requires that the Service conduct an analysis using the best available data, but there is no requirement for an exhaustive review of all sources of potentially relevant information. The FEIS provides a summary review of the affected environment obtained from various sources. The Service undertook a reasonable review of all relevant, available information and included additional information submitted during the public comment period where appropriate in the final EIS.

Comment: The EIS does not adequately address the concerns we expressed in our scoping letter regarding the impacts of Alternative A on large aggregations of non-listed, breeding birds. The protections of the MBTA as historically implemented have played a central role in resolving bird conflicts in Florida, particularly in instances of negligence that would lead

to the deaths of large numbers of birds. For example, application of the MBTA prevented disturbance and injury to large colonies of seabirds on spoil islands in Florida, discouraged beach driving in an area hosting an important seabird colony, influenced design of facilities at a local park to protect a wading bird rookery, and influenced stakeholders to delay capping of chimneys until after chimney swift nesting is complete. Although impacts are difficult to quantify, we think that it is important to acknowledge how the alternatives could impact large aggregations of non-listed birds, such as colonial-nesting seabirds, wading birds, and aerial insectivores.

Service Response: The Service acknowledged in the draft EIS that the preferred alternative may have negative effects on populations of migratory birds, but that the uncertainty of many variables makes it impossible to provide a quantitative analysis for each species. It is important to note that other federal, State, tribal, and local laws and regulations, along with other mechanisms such as voluntary implementation of conservation measures, may all act to protect migratory birds, including the large aggregations of breeding birds cited by the commenter. The Service encourages States to use their legal authorities and collaborative powers to further the conservation of migratory birds and we will continue to work with our partners to protect large breeding bird colonies when necessary.

Comment: The DEIS's Status of Bird Population Trends subsection fails to describe one of the largest threats to bird populations – climate change. A recent study demonstrates the alarming loss of 2.9 billion birds from 529 species in North America since 1970. This new data, published in Science, revealed a 30% decline in birds in less than one human generation. On top of these current losses, substantial changes to bird and ecological communities due to climate change are anticipated in coming decades. Effects of climate change are predicted to negatively impact bird populations via many different routes, including increasing ocean temperature, reduction in sea ice, changes in ocean currents, ocean acidification, and invasive alien species.

Additionally, an increase in contagious diseases affecting seabirds on their terrestrial breeding grounds may also be linked to increasing temperatures. An example is the recent occurrence of avian cholera in the northern Bering Sea and in the Arctic Archipelago. A recent forward-looking climate report determined that 389 (64%) of 604 North American bird species studied are at risk of extinction from climate change. The analysis also showed that if we take action now, we could help improve the survival for 76% of species at risk. Climate change is associated with loss of shorebird productivity in the Arctic, changes in habitat quality and quantity throughout the flyway, and effects on shorebird migration and timing of migration. If incidental take is excluded, these population losses will clearly be exacerbated, which undermines the Migratory Bird Treaties and the MBTA. In light of this information, especially the current loss of 2.9 billion birds, the impacts of climate change must be discussed.

Service Response: The Service acknowledged climate change in the draft EIS (Sections 3.4 and 3.9). However, additional specific analysis on this topic would require more information regarding how industry will react if the preferred alternative or No Action Alternative are adopted. From the data we do have available, the Service does not expect that the incremental effect of adopting any of the alternatives will significantly modify the expected impact of climate change on migratory bird populations.

Comment: The Service should analyze and explain the impacts on Birds of Conservation Concern (BCC), as well as candidates for ESA listing, and State-designated Species of Greatest Conservation Need identified by State Wildlife Action Plans. While the Service states that, as a result of its preferred alternative, some species “may decline to the point of requiring listing under the ESA,” it does not identify which species may be impacted. The Service should publicly release an updated BCC list before issuing a final rule and include it in the final EIS in

order to inform the public and address the risks to these species, most of which face threats from incidental take sources.

Service Response: The Service does not plan to update the BCC list prior to publication of the EIS, and there is no requirement to do so. It is reasonable to assume, however, that birds that are on the current BCC list are ones that are most likely to be listed under the ESA if the preferred alternative indeed has negative impacts on birds. The Service does not have additional information on which individual species are likely to be listed under ESA.

Comment: While Table S1 at the beginning of the document includes findings that the preferred alternative “may decrease revenue for businesses directly dependent on birds (hunting, bird watching, guides, and ecotourism)” and lead to “likely increased costs for businesses dependent on ecosystem services provided by birds (seed dispersal and pollination, etc.),” there is no further discussion of these findings. The Service should explain these impacts and weigh such findings against any other economic considerations, such as costs to industrial entities from implementing best management practices.

Service Response: These effects are discussed in the socioeconomics section of each alternative.

Comment: Two commenters expressed concern that domestic and feral cats were not included in the list of causes of incidental take of migratory birds.

Service Response: The Service agrees that domestic and feral cats are a cause of mortality of migratory birds. However, the Service does not consider migratory bird mortality from cats to be incidental take because it is not directly caused by human activities like construction and operation of infrastructure, and therefore excluded it from the analysis.

Comment: The DEIS focuses inappropriately on impacts to regulated industries and largely minimizes or ignores the implications to other concerns including federal agencies, State

or local governments or small businesses dependent on birds. There are no significant analyses of the effects of the Alternatives of operations of anything except regulated entities. Continued declines of bird populations anticipated by the No-Action Alternative or Alternative A could have devastating impacts on all sorts of segments of American Society. Again, this shallow assessment is merely lip service to the analysis intended by NEPA and is unprecedented in my experience.

Service Response: A major purpose of the rule and EIS is to provide legal clarity to the regulated public. Therefore, it is appropriate to analyze what effects the action will have on the regulated public. The DEIS discusses the relevant impacts of each alternative, including effects on businesses that rely on migratory birds such as hunting and ecotourism operations, as well as businesses that cater to birdwatching. Significant declines of bird populations could result in significant impacts to society as stated by the commenter, but it is important to note that the Service's implementation of the MBTA as it relates to incidental take has a relatively minor incremental effect on the long-term ongoing declines of many bird species.

Comment: Migration adds considerable complexity to the understanding of both population dynamics and conservation of species because species have breeding ranges (habitat), migration routes (stopover or passage habitat), and winter ranges (habitat). However, there is also a temporal component to assessment of impacts to species – whether or not a species is present (immediate, direct impact because the species is present) or not present (delayed, indirect impact because the species not present will return to occupy or pass through an area and thus encounter the impact). The consideration of impacts to migratory birds cannot be reviewed in static terms (e.g., present or not present) but must be viewed in dynamic terms (present or not present now but may be impacted when species returns).

Service Response: The Service agrees that bird migration is a complex issue. The Service is required to complete an impact analysis using the best science available. Collecting and analyzing new data are beyond the scope of a NEPA analysis. The Service reviewed multiple technical reports and bird trend summaries (e.g., State of the Birds and BBS) to develop a clear understanding of the current trend for bird populations. The Service acknowledges in the final EIS that the preferred alternative could result in increased mortality of birds. Part of this increased mortality could occur during migration. The final EIS addressed the impacts of each alternative on birds and other biological resources as well as cumulative and cultural impacts. The Service will continue to work cooperatively with partners to implement BMPs that reduce mortality and will continue to factor in the migratory behavior of affected species when providing advice and assistance in development and implementation of BMPs.

Comment: The DEIS should describe the current capacity of the Service to conduct or oversee monitoring to assess actual impacts of the proposed regulation. This assessment should provide a detailed analysis of the staffing levels and funding needed to achieve adequate monitoring of migratory birds to determine the actual impact of the proposed regulation because the responsibility for good wildlife stewardship and compliance with treaty obligations is the responsibility of the Service. Therefore, to assess actual impacts, more rigorous monitoring will be needed, particularly for species whose populations are small or in steep decline. The DEIS should also describe how such monitoring will be achieved and the resources needed to establish a more robust monitoring effort.

Service Response: Independent of this action, many factors affect Service staffing levels and ability to monitor migratory birds, including Congressional appropriations and priorities of each administration. The Service does not expect any of the alternatives to affect staffing or funding levels, and the Service will continue to work to maintain and expand

partnerships to monitor migratory birds, including work to increase information on mortality rates and causes.

Comment: The Service must identify the 17 States that have provisions regulating some form of incidental take of migratory birds, as stated in paragraph 3 of page 45. Similarly, the Service must identify those States that do not require the different forms of “beneficial practice”.

Service Response: The Service appropriately cited the source of this information in the EIS. Naming the individual States involved was not necessary for our analysis of the impacts of each alternative. Please refer to the cited document for further information.

Comment: Discuss the thresholds of significance by considering the context and intensity of each alternative and its effects (40 CFR 1508.27).

Service Response: The Service followed NEPA guidelines in development of the EIS, including a discussion of context and intensity of each alternative that may significantly affect the quality of the human environment. NEPA does not requires that an agency explicitly use the words "significant," "context," or "intensity" when conducting such an analysis.

Comment: Several reviewers commented on the Purpose and Need section, stating that the section should include the mission of the FWS, that the purpose and need was too narrow, inadequate, improper, or that the preferred alternative does not meet the purpose and need.

Service Response: NEPA regulations encourage agencies to develop appropriately succinct environmental analysis documents. The purpose and need for this action are directly tied to our proposal, as required. A broader purpose and need statement would not be consistent with our proposal.

Comment: Several reviewers disagreed with the concept of using M-Opinion 37050 as the baseline for the “No Action” alternative.

Service Response: The Service has updated the "No Action" alternative to reflect the vacatur of M-Opinion 37050. The Service is continuing to exercise its enforcement discretion to investigate only take directed at migratory birds, consistent with the interpretation set forth in M-37050 and refined in our proposed rule. This is the appropriate No Action Alternative. The environmental baseline is described in the affected environment assuming our current exercise of enforcement discretion, which has not changed with the vacatur of M-37050.

Comment: Though the USFWS identifies Alternative A as its preferred alternative, Alternative B is the environmentally preferable alternative due to the absence of avoidance, minimization, and mitigation measures under Alternative A (40 CFR 1502.1; CEQ's 40 Questions, 6a).

Service Response: NEPA regulations require that agencies identify the environmentally preferred alternative in its record of decision (40 CFR 1505.2). We will do so. An agency is not required to select that alternative as the preferred alternative.

Comment: Some reviewers stated that the Service committed several NEPA procedural errors, including ex parte communications, insufficient public involvement, and having a pre-determined outcome.

Service Response: The Service followed CEQ's NEPA regulations in soliciting public involvement and all aspects of the development of this rule and EIS.

Comment: The U.S. State Department is the lead federal agency for interpreting and negotiating international treaties. The MBTA implements the 4 bilateral treaties for the conservation of migratory birds. Therefore, the US State Department should be the lead federal agency in the development of this DEIS or at least a cooperating federal agency as spelled out in the NEPA regulations. It appears that DOI is alone in its interpretation and has exceeded its authority in the Proposed Rule and DEIS.

Service Response: The Service agrees that the State Department is the lead agency for negotiating and interpreting international treaties. The State Department generally does not take lead in developing an EIS to analyze the impacts of a federal agency's decision that may have transboundary effects. Although the State Department is not an official cooperating agency for purposes of developing this EIS, we have been in contact with the State Department regarding discussions with U.S. migratory bird treaty partners. The State Department and other federal agencies have also been involved in the interagency review process coordinated by OMB for rules deemed significant under Executive Order 12866. We have consulted with relevant federal agencies in the development of the proposed rule and EIS. We have also met with the State Department and delegates from the Government of Canada to discuss the underlying rulemaking. The Government of Canada submitted comments on the DEIS, which we address below.

We believe the U.S. Fish and Wildlife Service is the appropriate lead agency in developing the NEPA analysis for a rulemaking conducted by the Service to interpret a statute that the Service is charged with implementing.

Comment: Seabirds as a guild are undergoing significant declines and include some of the most imperiled species of all birds. There are many threats to seabirds both natural and anthropogenic. The Service failed to adequately address the potential impacts of each alternative as they relate to seabird populations. The Service failed to discuss fisheries by-catch and over-fishing as threats to this guild and the EIS would benefit from a more thorough treatment of threats to seabirds.

Service Response: The Service recognizes that seabird populations are imperiled from both natural and anthropogenic threats, including incidental take. The Service has added additional text to improve the treatment of seabirds in the EIS. As with other bird guilds, the

Service did not analyze the effects of the alternatives on populations in a guild specific or quantitative manner, but instead focused on a more qualitative assessment of whether the effects of the rule would be positive or negative on birds. This assessment was based on how each alternative affected whether an entity would implement best practices to reduce incidental take. This approach includes entities working in marine environments. The Service currently has a robust program, working with NOAA Fisheries to promote seabird conservation that includes proactive management of seabird populations and monitoring and working with industry and federal agencies to reduce the impacts of energy development in the offshore environment. NOAA Fisheries regulates individual fisheries under the Magnuson-Stevens Act and includes conditions requiring bycatch-reduction measures for marine mammals, sea turtles, and seabirds. Our interpretation of the MBTA would not affect NOAA Fisheries' management of those fisheries.

Comment: Multiple Tribes stated that this proposed action violates multiple tribal-specific treaties, dating back to the mid-1800s. These treaties established the federal government's trust responsibility to federally recognized tribes. The federal Indian trust responsibility is a continuing fiduciary duty and legal obligation owed by the federal government to tribes as beneficiaries. Under the trust responsibility, the United States is legally responsible for the protection of tribal lands, assets, resources, and treaty rights for the benefit of tribes. Government-to-government consultation is one facet of effectuation of the trust responsibility. Several Tribes claimed they have no record of receiving any communication or outreach from Service or DOI regarding the proposed regulation revisions or associated DEIS, much less an invitation to consult on either. The Tribes recommend that the rulemaking process be paused so that intelligent and respectful

consultation with any Tribe that expresses interest in response to the invitation to consult can proceed.

Service Response: The Service takes its tribal-trust responsibilities seriously and completed government-to-government consultations on the rulemaking and this associated NEPA analysis when requested. Concerns posed by the tribes in their public comment letters were responded to in this Appendix. We considered all information provided by tribes, including how the proposed action or any of the alternatives could potentially impact specific Treaties.

During our public scoping process for developing this EIS, the Service held a webinar on March 16 that was restricted in attendance to allow only tribal members to attend, with the sole purpose of informing tribes of the proposed action and seeking input and feedback. Similar to the other webinars, tribal representatives were invited to ask questions and seek clarifications. In addition, a letter was sent through our regional offices to invite federally recognized tribes to engage in this proposed action via the government-to-government consultation process. To date, nine tribes have requested government-to-government consultation. The Service completed these consultations prior to publication of this final EIS.

Comment: Only a few years ago, the U.S. exchanged formal diplomatic notes with Canada reaffirming our countries' common interpretation that the treaty prohibited the incidental killing of birds. The Service must consider how its proposed interpretation is consistent with that diplomatic exchange and seek Canada's views on the Services' new interpretation in light of that exchange.

Service Response: The exchange of diplomatic notes the commenter references occurred in 2008 and it did not amount to an agreement that prohibiting incidental take was required by the Convention. Therefore, our current approach is not inconsistent with the 2008 diplomatic exchange.

Comment: One commenter requested that the Service remember its treaty obligation to protect birds that are shared with other countries that, as independent nations, could not ensure the protection of species that migrate across borders.

Service Response: We acknowledge this comment and submit that we will continue to implement relevant domestic laws and regulations in compliance with U.S. treaty obligations and provide technical advice and assistance to our treaty partners and encourage continued conservation and protection of migratory birds to the extent authorized by their domestic laws. The Service acts on this by regularly reviewing treaty obligations for consistency with agency plans, meeting annually with treaty partners Canada and Mexico, and maintaining contact and coordination with partners in Japan and Russia.

Comment: Multiple commenters stated that the proposed rule is likely to facilitate a substantial increase in the number of migratory birds killed, in direct conflict with the amended treaty with Canada. The commenters noted that the proposed rule change is extremely limited in scope as it fails to address the evolution of threats to migratory birds or to ensure the sustainability of healthy bird populations. While unregulated harvesting is no longer a primary threat to migratory birds, declines in bird populations continue to remain a serious international issue. The commenters noted that international partners would suffer the loss of the many benefits of migratory birds as the U.S. rolls back its protective policies.

Service Response: We disagree that this rulemaking will result in a substantial increase in the number of migratory birds killed. The EIS notes that the preferred and No Action alternatives may result in a measurable incremental increase, but we do not expect it to be substantial. It is important to note that the MBTA should not be relied upon by itself to reduce large-scale impacts on migratory bird populations, regardless of whether it is interpreted to prohibit incidental take. It is simply one tool in what must be a multi-faceted approach. Likewise,

we use a multifaceted approach to meet our obligations under the migratory bird Conventions, as noted in the preamble to the proposed rule. Voluntary efforts and development of industry best practices are a key part of our approach to reducing impacts on migratory bird populations, particularly given that the substantial decreases over the last 50 years have occurred despite the prior agency practice of enforcing the MBTA for incidental takes. We will continue to work with our partners, the regulated community, our treaty partners, and the public at large to uphold our commitment to ensure the long-term conservation of migratory birds under the migratory bird Conventions.

Comment: The proposed rule ignores Article IV of the amended Canada Treaty that the U.S. is to “seek means to prevent damage to such birds and their environments, including damage resulting from pollution.” Under the new interpretation of the MBTA, pollution is no longer a considered factor as pollution is almost never a direct, purposeful act. This failure to address threats beyond harvesting undermines the U.S. commitment under the amended Canada Treaty to ensure the long-term conservation of shared migratory bird species.

Service Response: Several domestic laws implement our commitments to our treaty partners to prevent and mitigate damage to migratory birds from pollution. For example, pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), the Oil Pollution Act, and the Clean Water Act, the Department is authorized to assess injury to natural resources caused by releases of hazardous substances and discharges of oil to compensate the public for lost natural resources and their Services. The Department’s assessment of natural resource injuries under the Natural Resource Damage Assessment Program includes any injury to migratory birds, which in many cases could otherwise be classified as incidental take. pollution. We will continue to implement these programs consistent with our treaty obligations.

Comment: The cost-benefit analysis in the EIS must adequately disclose any environmental costs of the project. If these costs are not quantified or discussed, the EIS is invalid. Accordingly, environmental costs must be studied within a reasonable project life and without a “discount rate” that would undermine the evaluation. FWS has provided confusing projections regarding the costs of the proposed regulation. Specific solicitation of comments on regulatory costs suggests that this rule aims to reduce compliance for industrial operators. Conversely, FWS claims that most mitigation will continue to protect birds in a substantially similar manner. FWS cannot proceed without addressing this internal contradiction. While preparing the EIS, FWS must clearly state whether it projects that mitigation efforts will continue effectively. Tellingly, FWS has indicated that it lacks the data to quantify the costs of incidental take regulation on industries compared to the proposed action. During the public webinar on March 5, 2020, staff acknowledged that this information was dependent upon public input and not yet known by the agency. So much of the proposed action relies on an economic cost-benefit analysis that FWS cannot proceed without a full picture of these consequences. As the proposed rule acknowledges, many industries may feel the effects of this action and must be able to weigh in.

Service Response: The proposed action does not rely on an economic cost-benefit analysis to justify its purpose and need under NEPA; however, the Service provided economic information in the regulatory-impact analysis made available to the public with the proposed rule. The Service is required to analyze the effects of the proposed action and alternatives based on the best information available. The Service is not required to quantify costs and benefits when there is no data to support such quantification. Instead, the Service provided qualitative estimates of the impacts of the alternatives. This is the best information the Service has available

to inform the public on the environmental and socioeconomic impacts of the alternatives studied in the EIS.

Comment: The Service should undertake a comprehensive analysis of the history of its prior efforts to minimize incidental take. In the Regulatory Impact Analysis, the Service includes data going back to 2010, including the number of incidental take cases and amounts of fines. The choice of 2010 is arbitrary and does not provide a complete picture of how the MBTA has been applied. By including the unusually large fine in 2010 from the Deepwater Horizon oil spill, it makes the overall level of fines and per-year averages appear higher than they would be by choosing a different timeline. Additionally, a reader may mistakenly presume that this aspect of MBTA enforcement began in 2010, when in fact it has been applied for decades under administrations led by both political parties. FWS also needs to analyze its previous policies regarding enforcement, including the FWS Office of Law Enforcement Chief's Directive CD-B5320 that outlined when and how incidental take enforcement should be considered. It should also consider previous memoranda, such as the 2003 Migratory Bird Permit Memorandum MBPM-2 on Nest Destruction that clarified that active nests are protected under the MBTA, which was inappropriately replaced with a new memo based on the M-Opinion.

Service Response: The Service does not maintain an easily searched database on cases that would have been investigated under the prior interpretation of the MBTA. To answer this question would require that the Service look at every single case to extract applicable information. Since M-37050 clarified that incidental take of migratory birds is not prohibited under the MBTA, the Service does not actively seek or maintain information regarding cases of incidental take. The Service selected the time period from 2010-2018 to best demonstrate recent application of our enforcement discretion and fine collections to provide an accurate estimate for the effects of Alternative B and to compare the effects of the No Action Alternative and

Alternative A. We determined that recent history was most relevant to that analysis; this our selection of that time period was not arbitrary. We have clarified in the final EIS that enforcement actions occurred prior to 2010. The Service analyzed all previous policies on enforcement and application of the MBTA to incidental take and revoked or updated policies that were inconsistent with our current interpretation under M-37050 and the proposed rule.

Comment: The MBTA does not mention balancing economic interests with bird conservation or accounting of economic losses when addressing harm to birds. The Service should clarify the extent to which economic information will factor into its decision. It is therefore confusing that the Service has prioritized requesting this type of economic information in the proposed rulemaking. More specifically, the agency asks for information centering on mitigation measures implemented prior to issuance of the M-Opinion 37050, the cost of such measures, the cost of legal fees surrounding the risk of prosecution and the extent to which industries are continuing to use such measures. The Service should clarify the extent to which this information will factor into their decision-making in adopting a final rule and the associated environmental analysis and what authorities, if any, they are relying on to incorporate such considerations.

Service Response: The Service is required to disclose economic effects as part of the rulemaking process pursuant to Executive Order 12866, the Regulatory Flexibility Act, the Small Business Regulatory Flexibility Act, and other laws and regulations. The Service also seeks this information to better analyze the incremental impacts of adopting the alternatives in the EIS. The information cited by the commenter is helpful in our analysis to determine the extent to which the alternatives will incrementally impact migratory birds. Changes in adoption of mitigation measures and best management practices are the primary impact on migratory birds

we expect from the Alternative A and the No Action Alternative. Two primary driving factors in such changes will be legal compliance and economic cost.

Comment: The economic analysis of the alternatives should also incorporate not only the cost of implementing measures to avoid, minimize, and reduce incidental take of birds but also the cost of recovering birds and their ecosystems in the absence of incidental take prohibitions. There is a cost and benefit of any action so the costs and benefits of the No-Action and every other Alternative should be analyzed including restoring species after implementing the Proposed Rule.

Service Response: The MBTA does not contain specific requirements to restore species or habitat regardless of whether it is interpreted to prohibit incidental take. MBTA-protected species for which the Service and others would be legally required to restore would be listed under the ESA. Any increased costs related to any incremental increase in the number of species listed under the ESA are described in the EIS.

Comment: Migratory birds also contribute to production processes, such as consuming millions of insects protecting crops and reducing the need for pesticides. The Service makes no effort to quantify the value of migratory birds to production processes or to farming, including the costs of needing to purchase more pesticides. Birds provide a vital service to our food production and also support the health of our ecosystems more generally. If their populations decline, we may see unexpected and negative side effects in many areas of nature.

Service Response: The EIS acknowledges the myriad ecosystem services provided by birds, including those mentioned in this comment. The EIS also provides examples of the economic benefits of these services where they have been studied. However, the Service lacks available data to provide a comprehensive quantitative analysis of these benefits.

Comment: Species that have historically maintained stable populations, such as waterfowl, could be affected through the codification of M-Opinion 37050. For example, the evolution of fracking technology has led to an increase in accessibility to reserves of oil. This creates additional dangers for birds, including waterfowl and waterbirds, which make up 48 percent of all kills in pits, ponds, tanks, and trays. Population declines of certain species, like waterfowl, could result in a direct decrease of federal funds for conservation-related activities, which extend beyond protection of migratory birds. In the DEIS, discuss the indirect effects that decreased migratory game bird populations may have, such as reducing Pittman-Robertson funds (i.e., fewer sales of hunting equipment resulting in less excise tax collected) and decreased Federal Migratory Bird Conservation Stamp (i.e., Duck Stamp) sales.

Service Response: As described throughout the EIS, it is not possible to quantify the impacts on birds, nor the indirect impacts on costs and benefits, but we provide qualitative estimates of relevant impacts. In this example, it is not possible to determine whether incremental decreases in waterfowl populations resulting in application of any of the alternatives would be significant enough to decrease hunter participation, although we do not expect that to occur. Even if we could assess this impact, we would need to determine how decreased hunter participation affected purchases of guns and ammunition, how revenue changes from excise taxes through Pittman-Robertson funds affect the biological outcomes of State wildlife programs, and how that interacts with the assumed reduced hunter pressure on waterfowl populations. Given available information, it is not possible to assign even a qualitative value to this issue, although we do not expect this impact to be significant. Many other factors unrelated to interpretation of the MBTA impact waterfowl populations and many of those factors likely have a more significant impact.

Comment: One commenter recommended imposing stricter regulations along main migratory routes where high concentrations of MBTA species are biologically vulnerable (including stopover areas along migration routes, and core breeding/wintering areas), especially for threatened or endangered species or Species of Conservation Concern.

Service Response: The commenter's proposal is not a viable option under the No Action Alternative and Alternative A. Our proposed rule and preferred alternative defines the scope of the MBTA to exclude incidental take, thus incidental take that occurs anywhere within the United States and its territories is not an enforceable violation. This proposal is also beyond the scope of Alternative B and the purpose and need of this NEPA analysis, but could be part of a general permit framework system if we were to develop one after selecting Alternative B. This rule does not affect the prohibitions under the ESA, and thus species listed under that statute would continue to require consultation and protective measures. The status of migratory bird populations in the areas described by the commenter may be relevant in our decision to permit take under the Service's current permit system.

Comment: Multiple commenters noted that the purpose and need of the rule is to create legal certainty and that this rulemaking removes a patchwork of court decisions that create uncertainty for MBTA compliance. The commenters note that there is currently a patchwork of legal standards protecting migratory birds in each of the States. In the absence of national protection against incidental take, each State may seek to enforce or embolden existing State rules, thereby creating additional regulatory uncertainty for industry. The inconsistency among States in State codes and regulations may complicate industry understanding of expectations across the many States in which they operate, potentially requiring multiple State permits to conduct business.

Service Response: It is appropriate for individual States to determine whether and how to regulate incidental take of migratory birds, given that the MBTA does not prohibit incidental take. The MBTA itself provides provisions encouraging States to develop their own laws and regulations to protect migratory birds. *See* 16 U.S.C. § 708. Although we conclude that on balance that the interpretation of the MBTA in the preferred alternative will reduce regulatory uncertainty created by the prior agency practice of reliance on enforcement discretion, we acknowledged in our draft EIS that different State laws may create difficulties for national companies that must navigate those differences. We also note that this problem already exists in large part and do not expect this rulemaking to significantly contribute to inconsistencies in State laws. We will continue to cooperate with States that request our assistance in developing best management practices for various industries that minimize incidental take of migratory birds. In fact, such partnerships will become increasingly important to promote conservation of migratory birds and will lead to greater consistency in both conservation and regulation nationwide.

Comment: The proposed rule would harm States by depriving them of the MBTA's protections for migratory birds that nest in, winter in, or pass through their territories. The States own and hold migratory birds in trust for their citizenry. Moreover, the States and their citizens benefit from the role that migratory birds play in maintaining ecological balance and the valuable ecological services that they provide. The critically important ecological Services these species provide include insect and rodent control, pollination, and seed dispersal. As the U.S. Supreme Court recognized 100 years ago, State-level protections are insufficient to protect transient species that travel outside of a State's territorial bounds. In a landmark decision upholding the constitutionality of the MBTA, Justice Holmes wrote that migratory birds, which "yesterday had not arrived, tomorrow may be in another State and in a week a thousand miles away" can be "protected only by national action." *Missouri v. Holland*, 252 U.S. 416, 434-35 (1920). If left to

the States, the result would be a patchwork of legal approaches, reducing consistency nationwide. Individual States therefore rely on federal law (and the international treaties implemented by federal law) to protect their own bird populations when individual birds migrate beyond their boundaries. Interior's elimination of longstanding federal protection harms State interests.

Service Response: The intent of this proposal and the preferred alternative is not to harm States, but to interpret the MBTA in the context of incidental take in the manner Congress intended when it drafted and enacted the statute. States remain free to prohibit, manage, or regulate incidental take of migratory birds as they see fit under State law, and nothing in this regulation or the MBTA prevents them from doing so. In fact, the MBTA encourages States to do just that. *See* 16 U.S.C. §708.

Comment: Multiple comments state that this proposed major shift in policy and regulation in the MBTA will have international implications. The commenters note that migratory birds are a shared hemispheric resource, for which we are only custodians and stewards while they are within the borders of the United States. Any attempt to permanently weaken a law that will perpetuate, and almost certainly increase, the level of injury and death of migratory birds, needs concurrence by Canada, Mexico, Japan, and Russia if our treaty obligations are to have any true meaning. The Service has not addressed this international aspect in its planning and has not worked with the State Department on the issue. With this proposed change, the Service is making a unilateral change that will later be deemed an abrogation of our international agreements with these other sovereign nations.

Service Response: The MBTA, along with several other statutes, implements the migratory bird Conventions. The parties to those Conventions may meet to amend and update the provisions of the Conventions, but enactment, amendment, and implementation of domestic laws

that implement those Conventions do not require concurrence by the other parties. We have undergone interagency review of this rulemaking at the proposed rule stages and will do so at the final rule stage, facilitated by the Office of Management and Budget, which included input from the State Department. We will not speculate on the views of our Convention partners beyond the public comments reflected here.

Comment: Multiple commenters noted that the process being used for this rulemaking is unconventional. The commenters noted that the proposed rule was published with a notice of intent to prepare an EIS but without any concurrent environmental analysis of alternatives. This approach compromised the ability of commenters reviewing the proposed rule to understand fully the effects of the rule. Further, the subsequent publication and comment period on the draft EIS was after-the-fact, indicating a decision was already made regardless of the environmental consequences determined in the EIS. In addition, commenters noted that the 45-day comment period was inadequate for a draft EIS and a rule that proposes to substantially change decades of conservation policy and hinder bird conservation in the United States, given the current National State of Emergency in response to the novel Covid-19 coronavirus. Many of these commenters requested an extended comment period for the proposed rule and the draft EIS.

Service Response: The procedures followed in the rulemaking and associated NEPA processes were appropriate and lawful. A draft EIS, issued subsequent to the proposed rule on June 5, 2020, analyzed various alternatives, some of which were discussed in the public webinars conducted as part of the NEPA scoping process. One alternative in the draft EIS covers the expected effects of reverting to the Department's prior interpretation of the statute. We consider the 45-day period for commenting on the NEPA scoping process, along with the subsequent 45-day comment period for the draft EIS to be sufficient time for the public to address and comment on the effects of this rulemaking. Moreover, the M-Opinion, which

provided the original basis for this rulemaking, has been publicly available and reviewable for more than 2 years.

Comment: Multiple Tribes stated that the United Nations "Declaration on the Rights of Indigenous Peoples" (2007) ("UNDRIP"), endorsed by the United States in 2010, recognizes that indigenous people must give Free, Prior and Informed Consent for projects affecting their interests, prior to approval of any project affecting their land or territories. Multiple federally recognized tribes expect DOI to honor this policy in order to ensure no unilateral actions are taken that affect tribal land, territories or people without tribal consent.

Service Response: The UNDRIP resolution—while not legally binding on the United States or a statement of current international law—has both moral and political force. The United States Government announced its support of the UNDRIP in 2010. In its announcement, the United States explained that it recognizes the significance of the Declaration's provisions on free, prior-and-informed consent, which the United States understands to call for a process of meaningful consultation with tribal leaders, but not necessarily the agreement of those leaders, before the actions addressed in those consultations are taken.

To this end, the United States supports these aspirations of the UNDRIP through the government-to-government consultation process when agency actions may affect the interests of federally recognized tribes. The Service has sought to involve and consult with tribes regarding this rulemaking and associated NEPA process. The Service held a NEPA scoping webinar on March 16, 2020 that we invited only tribal members to attend, with the sole purpose of informing tribes of the proposed action. The Service sought feedback from tribal representatives to inform the rulemaking process and address tribal concerns. We also sent a letter through our regional offices inviting tribes to engage in this proposed action via the government-to-government

consultation process. Nine Tribes and two Tribal councils requested government-to-government consultation. The Service completed these consultations with all interested parties.

Comment: Multiple commenters noted issues with how the proposed rule and associated NEPA define a “Federal action.” The commenters note that fundamental to this rulemaking effort is to identify properly the major federal action. Major federal actions include policy changes like M-Opinion 37050. The commenters state that the rule ignores the real major federal action and agency decision of greatest consequence: The Service’s reliance on Interior’s M-Opinion 37050 to reverse course on decades of protections for migratory birds against incidental take. The environmental consequences of the underlying sweeping policy change, which occurred in M-Opinion 37050, have yet to be held up to the mandates of NEPA. The commenters state that, to proceed in any defensible fashion, the agency must reckon with the consequence of adopting M-Opinion 37050 in the first place.

Service Response: The EIS analyzes the difference between adopting an interpretation of the MBTA that excludes incidental take and the prior interpretation that the MBTA prohibits incidental take. It was legal advice from the Department’s Solicitor. Thus, in our view, the M-Opinion was neither final agency action nor major federal action. It was simply the initial stage of a process to alter agency practice to conform to the correct reading of the MBTA regarding incidental take. We conducted the NEPA analysis at the appropriate time to analyze the environmental effects of this rulemaking to codify that interpretation. The EIS compares the environmental effects of both interpretations.

Comment: Multiple commenters suggest that the Service’s choice to release a proposed rule based on a policy change it is already implementing and to conduct a NEPA analysis after-the-fact, turns NEPA on its head. This confused order of events also hampers a fair public understanding of the agency’s proposed action, alternatives, and likely impacts. The agency in

essence has already been implementing the underlying policy change that is reflected in the rulemaking without the benefit of public review and comment at the time it made that policy change.

Service Response: The procedures followed in this rulemaking process were appropriate and lawful. The Service engaged the NEPA process at the time it began to consider rulemaking to codify the M-Opinion, and that process will be complete before any final formal agency decision is made. A Draft EIS, issued subsequent to the proposed rule on June 5, 2020, analyzed various alternatives, some of which were discussed in the public webinars conducted as part of the NEPA scoping process. Those alternatives analyze the environmental effects of both prohibiting incidental take under the MBTA and excluding incidental take under the MBTA and gave the public opportunity to comment on those effects.

Comment: NEPA's "action-forcing" procedures "implement that statute's sweeping policy goals by ensuring that agencies take a 'hard look' at environmental consequences and by guaranteeing broad public dissemination of relevant information, it is well settled that NEPA itself does not impose substantive duties mandating particular results, but simply prescribes the necessary process for preventing uninformed—rather than unwise—agency action." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 333 (1989). We recognize that the administration announced a major revision of the Council on Environmental Quality's regulations implementing NEPA. 85 Fed. Reg. 43304 (July 16, 2020). We note that those revisions will not be in effect until September 2020, and therefore are not applicable to the Service's obligations in preparing the DEIS or these comments.

Service Response: We agree with the comment. We have developed and finalized this EIS under CEQ's prior regulations and have not applied the revised regulations.

Comment: In regard to the options put forward in the Draft EIS, the Government of Canada believes the preferred option of the USFWS (Option A) is inconsistent with previous understandings between the Canada and the United States (U.S.), and is inconsistent with the long-standing protections that have been afforded to non-targeted birds under the Convention for the Protection of Migratory Birds in the United States and Canada (the “Treaty” or the “Convention”) as agreed upon by Canada and the U.S. through Article I.

Service Response: The Service acknowledges that the approach set forth in Alternative A differs from our approach prior to 2017. The Service concludes that working with our domestic and international partners to implement a broad range of measures by improving best management practices and implementing various domestic laws to address incidental take of migratory birds will ultimately prove more effective than our prior approach. We consider this approach to be consistent with the United States’ obligations in the 1916 treaty with Great Britain on behalf of Canada, as amended by the Protocol between the Government of the United States and the Government of Canada Amending the 1916 Convention between the United Kingdom and the United States of America for the Protection of Migratory Birds, Sen. Treaty Doc. 104–28 (Dec. 14, 1995). As an example, the Service and its Canadian counterparts collaborate on numerous conservation efforts such as waterfowl banding and marking, reducing anthropogenic impacts (through the Trilateral Committee, which includes Mexico), and addressing the conservation needs of grassland birds, among others. The Service expects that, through these efforts, we can work with our treaty partners to achieve conservation success outside of a regulatory framework focused solely on incidental-take prohibitions.