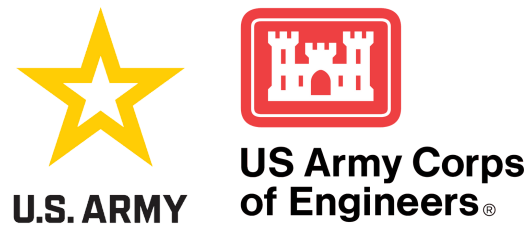




**US Army Corps
of Engineers®**

MIGRATORY BIRD TREATY ACT

Best Management Practices



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Cattle Egret-Bubulcus ibis | Credit: Paul Block

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Black-throated Blue Warbler | Credit: Douglas Burkett

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Red-breasted Merganser | Credit: Douglas Burkett

Overview

The U.S. Army Corps of Engineers (USACE) is committed to compliance with the Migratory Bird Treaty Act (MBTA) through its Environmental Operating Principles (<https://www.usace.army.mil/Missions/Environmental/Environmental-Operating-Principles/>). The intent of this document is to educate and inform staff as well as provide Best Management Practices (BMP's) on commonly performed activities to help achieve compliance with the MBTA.

This is a guiding document for USACE to meet its responsibility to avoid or minimize negative impacts to migratory birds and/or their habitats. This document is intended primarily to assist USACE personnel who are responsible for ensuring projects meet MBTA compliance requirements and adhere to USACE policies, practices, or guidelines.

Responsibilities

- Ensure impacts to migratory birds are considered in the project planning process and when identifying environmental aspects and impacts of project activities.
- Incorporate BMPs for protection of migratory birds into project planning and implementation.
- Perform land and habitat management practices that may benefit migratory birds and maintain habitat connectivity with emphasis on U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern (<https://fws.gov/media/birds-conservation-concern-2021.pdf>).
- Integrate MBTA compliance with other laws (e.g., National Environmental Policy Act (NEPA), Coastal Zone Management Act (CZMA), and applicable state laws).
- Identify BMPs for projects and activities to reduce threats and stressors to migratory birds.
- Provide training on MBTA compliance to USACE staff.
- Coordinate with USFWS Ecological Services Field Offices (ESFO) regarding migratory bird issues.
- As budget allows, ensure BMPs for protection of migratory birds are funded and implemented.
- Avoid active nests of migratory birds during construction projects until nestlings have fledged or nests are no longer active.



Black-crowned Night Heron | Credit: Tim Burr



Sandhill Crane | Credit: Paul Block

Regulatory Background

MBTA DEFINED

The MBTA of 1918 (16 United States Code [U.S.C.] 703-712) implements the 1916 Convention between the United States (U.S.) and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented additional treaties between the U.S. and Mexico (1936), the U.S. and Japan (1972), and the U.S. and the former Union of Soviet Socialist Republic (1976). These four treaties and their enabling legislation established Federal responsibilities for the protection of nearly all species of migratory birds, their parts, eggs, and nests.

Under the provisions of the MBTA, it is unlawful to "...pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird or any part, nest, or egg of any such bird..." (16 U.S.C. 703).



Yellow-billed Cuckoo | Credit: Paul Block

The term "take" means "...to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect..." (50 Code of Federal Regulation [CFR] 10.12). Intentional take is take that is the purpose of the action. Unintentional take (incidental take) is take that is not the purpose of the action, but occurs as a result of an otherwise legal action.

The MBTA makes no mention of habitat modification or destruction, unlike the Endangered Species Act (ESA) that identifies habitat modification or destruction as "harm" under the definition of "take."



Snowy Plover | Credit: Douglas Burkett

The MBTA does not contain any prohibition that applies to the destruction of an unoccupied bird nest (without birds or eggs), provided that no possession (16 U.S.C. 703) occurs during the destruction. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA. Due to the biological and behavioral characteristics of some migratory bird species (e.g., burrowing owls, other burrow nesters, cavity nesters, etc.), destruction of their nests entails an elevated degree of risk of violating the MBTA. Some unoccupied nests are legally protected by statutes other than the MBTA, such as the ESA and the Bald and Golden Eagle Protection Act (BGEPA). Removal of nests protected by ESA or BGEPA requires a permit under the provisions of these laws. Purposeful and accidental impacts to bird nests should consider the USFWS June 14, 2018, memo "Destruction and Relocation of Migratory Bird Nest Contents" that addresses inactive nest destruction, the Good Samaritan provision (allows temporarily possessing of eggs or chicks for transport to a licensed rehabilitator), special purpose permits, and other permits and authorizations.

Section 704 of the MBTA authorizes the Secretary of the Interior to issue regulations (permits) that allow the taking of migratory birds that are "compatible with the terms" and "carry out the purposes" of the migratory bird conventions (16 U.S.C. 704). The MBTA is implemented by the USFWS by delegation from the Secretary of the Interior. USFWS has the statutory authority and responsibility for enforcing the MBTA. USFWS determines if, and by what means, the take of migratory birds should be allowed and is responsible for adopting suitable regulations, permitting, and governing take.

Although permits may be obtained to import migratory birds, collect birds for scientific purposes, hunt for ducks and geese, raptor propagation, control depredating migratory birds (birds acting as agricultural pests, presenting issues for human health and safety or personal property, etc.), or for special purposes, permits are not generally available under the MBTA for incidental take of migratory birds. Incidental take by federal agencies is being considered by USFWS if the NEPA environmental review processes adequately addresses the avoidance and minimization of take. Consult the most recent USFWS rules or your local USFWS ESFO on incidental take for federal agencies before proceeding with any work.

Under the provisions of the MBTA, the unauthorized take of migratory birds is a strict liability criminal offense that does not require knowledge or specific intent on the part of the offender. As such, even when engaged in an otherwise legal activity where the intent is not to kill or injure migratory birds, violations can occur if a bird death or injury results. Even though the MBTA itself is enforceable only by the Federal government, Federal agencies may incur civil liability if their on-going or new actions take birds in violation of the MBTA. This is because the Administrative Procedure Act allows a private party to request that a court enjoin an agency action that does not comply

with the MBTA (injunctions usually last until the action is brought into compliance or dropped). USFWS Office of Law Enforcement can use enforcement discretion, especially when organizations are willing to work with the USFWS to avoid or minimize impacts to migratory birds.



Purple Gallinule | Credit: Paul Block

Bird Species and Their Protection Under the MBTA

A migratory bird is defined in 50 C.F.R. 10.12 as "any bird species, whatever its origin and whether or not raised in captivity, which is listed in 50 C.F.R. 10.13, or which is a mutation or a hybrid of any such species, including any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof."

The MBTA Reform Act of 2004 amended the MBTA to protect only native species whose occurrence results from natural, biological, or ecological processes, and also requires the USFWS to list (70 FR 12710, March 15, 2005) all non-native species not protected by the MBTA whose occurrence results from intentional or unintentional, human-assisted introduction.

Bird species protected under the MBTA are species that are (1) native and (2) belong to families, groups, or species covered by at least

one of the four conventions implemented by the MBTA. Species protected under the MBTA are included on the USFWS "10.13" list (50 C.F.R. 10.13) (see Appendix B). The 10.13 list is dynamic, meaning that species can be added or removed based on changes in distribution and/or taxonomy. The USFWS revision to the 10.13 list in 2020 brought the total number of species protected by the MBTA to 1,093.



Gray-tailed Tattler | Credit: Rich Fischer

Bird species not protected under the MBTA are:

- Species that are (1) nonnative, human-introduced into the United States or its territories *and* (2) belong to families covered by conventions implemented by the MBTA (e.g., House Sparrow and Rock Pigeon). See Appendix C, 70 FR 12710 (March 15, 2005) for a list of nonnative, human-introduced bird species in this category.
- Species that are (1) native *and* (2) belong to families not covered by any of the conventions implemented by the MBTA (e.g., quail and grouse). See Appendix C for a list of species in this category. Many of these species are regulated by states under hunter harvest laws.
- Species that are (1) nonnative, human-introduced *and* (2) belong to families not covered by any of the conventions implemented by the MBTA (e.g., parrots and European Starling). See Appendix C for a list of species in this category.

MBTA and Related Laws and Regulations

There are other environmental laws besides the MBTA that deal with protection of migratory birds. Some of the most common Federal laws dealing with protected species are described in the following subsections.

Migratory Bird Conservation Act

The Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r) of February 18, 1929, (45 Stat. 1222) established a Migratory Bird Conservation Commission to approve areas of land and/or water recommended by the Secretary of the Interior for acquisition with Migratory Bird Conservation Funds. The Secretary of the Interior is authorized to cooperate with local authorities in wildlife conservation and to conduct investigations, to publish documents related to North American birds, and to maintain and develop refuges.



Arctic Warbler | Credit: C. VanTassel

Endangered Species Act

The ESA of 1973 (16 U.S.C. 1531-1544) requires all Federal agencies to use their authority to "seek to conserve" endangered and threatened species and to provide a means to conserve their ecosystems. The law is administered by the USFWS and the National Marine Fisheries Service (NMFS). USFWS has primary responsibility for terrestrial and freshwater organisms, while NMFS has responsibility for marine and anadromous species, such as salmon.

Section 7 of the ESA requires all Federal agencies to consult with the appropriate regulating agencies on any action they are proposing that could jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse

modification of designated critical habitat. As of 2023, 88 species of migratory birds are protected under the ESA.

Additional information on endangered species and their interrelationships with USACE projects can be found at the USACE Threatened and Endangered Species Team (TEST) site (<https://test.el.erdc.dren.mil/index.html>).

Bald and Golden Eagle Protection Act

The Bald Eagle Protection Act (BEPA) of 1940 (16 U.S.C. 668-668c) prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The BEPA initially protected bald eagles only. Golden eagle protection was added in 1962 under the BGEPA. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The statute provides that "take" also includes "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle; 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. Under the BGEPA, take, possession, and transport can be authorized. Import, export, and sale cannot be permitted.

National Environmental Policy Act

NEPA of 1969 (42 U.S.C. 4321 et seq.) and the Council on Environmental Quality (CEQ) regulations implementing its provisions require Federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their



Bald Eagle | Credit: Ann Marie DiLorenzo

proposed actions and reasonable alternatives to those actions. NEPA does not just refer to documents, but also to a process for decision-making. While certain NEPA documentation is required and is important, it is the environmental decision-making process that NEPA truly emphasizes. USACE uses the NEPA process as its primary means to ensure the evaluation of the potential impacts of its proposed actions and alternatives, including impacts to migratory birds and their habitats. See Section on MBTA Integration with NEPA below for additional information.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) of 1934 (16 USC 661 et seq.) requires Federal agencies that construct, license, or permit water resource development projects to first consult with the USFWS and, in some instances, the NMFS, as well as with State fish and wildlife agencies regarding the impacts on fish and wildlife resources and measures to avoid and minimize these impacts. The purpose of this process is to promote conservation of wildlife resources by preventing loss of and damage to

Table 1: Key differences between ESA, BGEPA, and MBTA

	ESA	BGEPA	MBTA
Enacted	1973	Enacted 1940, Amended 1962	1918
Purpose	Implemented the Convention on International Trade in Endangered Species (<i>CITES</i>) of Wild Fauna and Flora	Address declining Bald Eagle populations (<i>shooting/habitat encroachment</i>)	Implement Treaty with Great Britain (<i>on behalf of Canada</i>) signed in 1916
Take Definition	"harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" or any attempt thereof	"pursue, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb"	"pursue, hunt, shoot, wound, kill, trap, capture, or collect" (<i>regulatory definition; no statutory definition</i>)
Notable Differences	Harass = intentional or negligent act significantly disrupts normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering Harm = act which actually kills or injures wildlife...may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering	Disturb = agitate or bother...to a degree that causes (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior	No harass, harm, or disturb. Operates at a much different scale. Where ESA and BGEPA are focused on conserving at risk species, MBTA protects all birds
Behavior Disruptions	If constitutes harassment, behavior disruption prohibited under ESA	If constitutes disturbance, behavior disruption prohibited under BGEPA	No provision; however, unintentional killing of a nestling or abandoned egg constitutes take
Habitat Alteration	If constitutes harassment or harm, ESA can regulate habitat alteration and alteration of habitat that has been designated as critical habitat	If constitutes disturbance, BGEPA can regulate habitat alteration	No provision to regulate habitat alteration, only direct take of birds (<i>inactive nests are not protected</i>)
Mitigation	Provisions for habitat conservation measures and mitigation measures	Provisions for compensatory mitigation as well as other forms of mitigation	Mitigation has not been required through MBTA permits to-date
Incidental Take	Permits: Incidental Take - if action is not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats	Permits: Non-purposeful take (<i>disturbance</i>) - for individual instances that cannot practically be avoided or programmatic take that is unavoidable even after implementation of advanced conservation practices	No expressed authorization for take that occurs as a result of an otherwise legal-action. Incidental take constitutes take and is illegal under MBTA without a permit
Other Irregularities	No prohibition against possession of specimens/parts, provided demonstration of legal acquisition	Puts limitations on import/export	No permit required to haze/harass. Often more enforceable than ESA, used to add protection to ESA-listed birds.
Noteworthy History	<ul style="list-style-type: none"> • CITES was signed in March 1973 • Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere is also implemented (<i>signed 1940</i>) 	<ul style="list-style-type: none"> • Golden Eagle protected in 1962 	<ul style="list-style-type: none"> • Becomes cornerstone for protection of birds and habitat • Additional treaties with Japan, Mexico, and Russia

such resources and to provide for the development and improvement of wildlife resources in connection with the agency action. Although the recommendations of the Secretary of the Interior and state officials are not binding, the Federal agency must give them full consideration.

Executive Order 13186

Executive Order (EO) 13186 of January 10,

2001, Responsibilities of Federal Agencies to Protect Migratory Birds, directs Federal departments and agencies to take certain actions to further implement the MBTA, resulting in improved bird conservation. Specifically, EO 13186 directs Federal agencies taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement a Memorandum of Understanding (MOU) with the USFWS that promotes the conservation of

migratory bird populations. Under this EO, the Secretary of Interior established the Interagency Council for the Conservation of Migratory Birds to oversee the implementation of EO 13186. USACE participates in the Council for the Conservation of Migratory Birds.

Additionally, EO 13186 state that, "Each agency shall...support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, adverse impacts on migratory bird resources when conducting agency actions" (Sec. 3(e)(1)). EO 13186 addresses the conservation of migratory bird habitat, as habitat is not mentioned in the MBTA.

Under EO 13186, USACE should consider these BMP's in all work that impacts migratory birds and their habitat.

Coordination

Federal agencies, including USACE, are not required to consult with the USFWS under the MBTA; however, USACE does have obligations to coordinate with USFWS in order to avoid or minimize action-related effects to migratory birds. USACE, in coordination with the USFWS, is committed to developing BMP's that are consistent with EO 13186. These measures may result in the elimination, prevention, or reduction of impacts to migratory birds through managing project-related threats and stressors (see below for activity specific conservation measures).

Coordination with USFWS Offices

USFWS ESFOs across the country serve as the primary contacts for technical assistance and environmental reviews of projects involving migratory bird issues (<https://www.fws.gov/program/ecological-services/contact-us>). The Ecological Services Program provides national leadership for the conservation of species and



Broad-tailed Hummingbird | Credit: Tiffany Shepherd

the habitats on which they depend. The USFWS ESFOs coordinate with the Regional USFWS Migratory Bird Offices, as necessary, during project reviews and overall migratory bird conservation. The Office of Law Enforcement is the principal USFWS program that enforces the MBTA and other laws pertaining to migratory bird conservation.

Much of the responsibility to establish and maintain appropriate communications with the USFWS ESFO for proposed and ongoing projects or programs is at the project staff level. Early communication, externally and within USACE, can 1) identify potential adverse effects on migratory birds, 2) identify avoidance and minimization measures, 3) identify best management practices, and 4) help USACE staff plan and execute projects successfully. Project staff serve as the liaison between USACE project team members and the USFWS ESFO.

MBTA Integration with NEPA

Federal agencies use the NEPA process as their primary means to ensure the evaluation of potential impacts of their proposed actions and alternatives. As such, and in accordance with Executive Order 13186, USACE should evaluate the effects of its actions on migratory birds and their habitats pursuant to NEPA. USACE staff should coordinate MBTA compliance with NEPA requirements and address the protection of migratory birds, including the use of BMPs, along with avoidance and minimization of impacts to migratory birds and their habitats.

NEPA and CEQ regulations require that Federal agencies consider the effects of their actions on the quality of the human environment, including migratory birds. Integrating MBTA requirements with NEPA early in the planning process enables USACE staff to identify potential impacts of the proposed action and alternatives on migratory birds and develop conservation measures or implement BMPs that can effectively avoid or minimize adverse effects on migratory birds or the production of stressors.

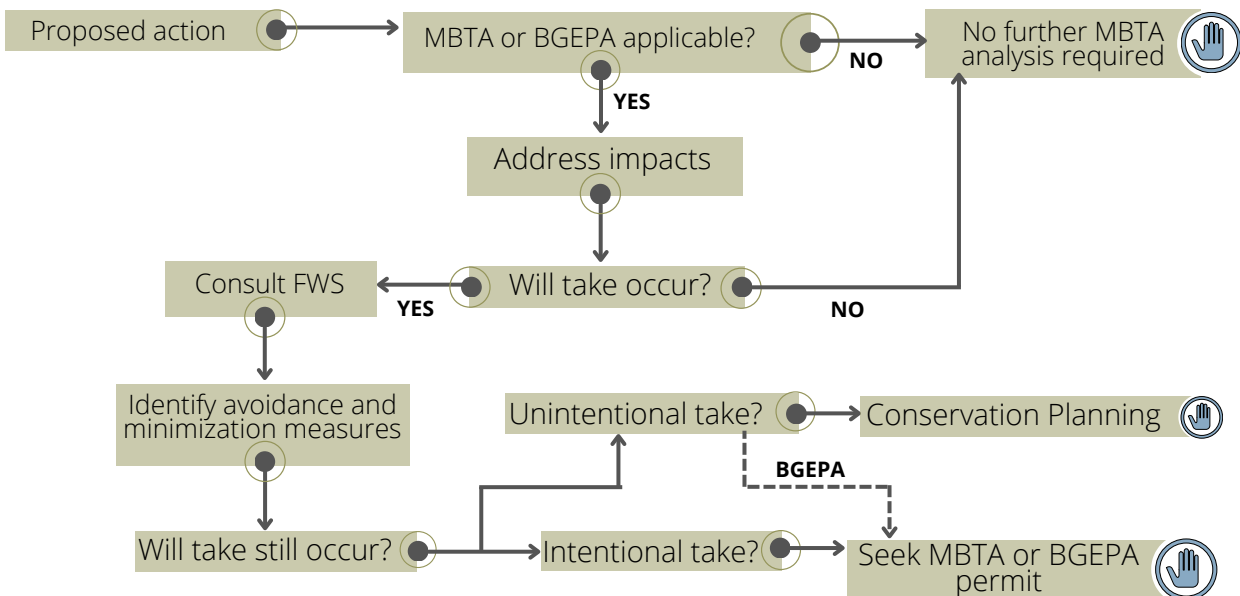
The NEPA document should include discussion

about migratory birds and an effects determination. USACE staff should ensure that the affected environment section of the NEPA document utilizes the best scientific data available to determine what species of migratory birds are likely to be present (in any season) in the area and the proportion of available habitat impacted. Special consideration should be given to priority habitats, such as important nesting areas, migration stopover areas, and wintering habitats. The USACE Natural Resources Management Gateway page (<https://corpslakes.erdc.dren.mil/employees/bird/initiative.cfm>) is a resource that should be referenced for numerous resources that provide valuable information about migratory birds and their distribution.

USACE staff should ensure that the environmental consequences section of the NEPA document (i.e., Record of Environmental Consideration [REC], Environmental Assessment [EA] or Environmental Impact Statement [EIS]) analyzes direct and indirect effects and short-term and long-term effects to migratory bird populations and habitat, including cumulative impacts.

Figure 1: Migratory Bird Integration with NEPA. Data Source: USFWS

Migratory Birds and NEPA



Established criteria, such as percent habitat loss, rarity of habitat, numbers of impacted Birds of Conservation Concern (<https://fws.gov/media/birds-conservation-concern-2021pdf>) and population trends, and population objectives for impacted species should be used. The NEPA document needs to address not only the effects of the proposed action or alternatives on migratory bird resources, but also the effects of any proposed mitigation. In the findings portion of the NEPA documentation, a determination of whether or not the proposed action would have a significant impact on the migratory bird population or habitat should be addressed. If significant impacts are identified during the processing of an EA, these impacts must be reduced to less than significant or an EIS will be required. To the extent necessary to support a Finding of No Significant Impact, the EA should propose mitigation for direct, indirect, and cumulative impacts to avoid, reduce, eliminate, or minimize the effects of the proposed action. Avoidance and minimization measures may also either correct the impacts after completion of the activities causing impacts or provide compensation for the impacts of the proposed action.

The following provides a detailed walk through of considerations and documentation that should be provided in any analysis for Migratory Birds under NEPA.

Describe Alternatives Eliminated

Document that due diligence was taken early in the site selection and scoping session processes to illustrate that avoidance factors were considered to protect migratory birds and their habitat.

- Document any alternatives that were eliminated from further consideration due to migratory bird conflicts.

Describe the Affected Environment and Existing Conditions

The description and evaluation of baseline conditions in the affected environment section

set the stage for evaluation of impacts and should include: a clear presentation of methods and results, indications of limitations and uncertainties, and an assessment of the value of key resources and their sensitivity to impacts. It is important to identify all resources that may be affected by the proposed project, within the project footprint, and within a regional context for the purpose of comparing the environmental consequences of the proposed action and its alternatives.

- Describe the habitat type, quantity, and quality present within the project footprint.
- Determine the avian Species of Concern (SOC) that are known or likely present within the areas of proposed action alternatives. To the extent practical, provide a reasonable estimate of the percentage of the birds that will be impacted within the areas.
- Describe the regional setting, including the status of any significant bird use by species of concern within the region (e.g., flyway, stopover site).

Table 2: Species Status Resources

<p>The following sources also provide helpful information for identifying if you have Migratory Bird Species of Concern in your project location that should be considered.</p>
<p>USFWS Birds of Conservation Concern https://fws.gov/media/birds-conservation-concern-2021pdf</p>
<p>Partners in Flight Database of Migratory Bird Species of Concern https://partnersinflight.org/species/</p>
<p>Other documents that discuss Migratory Bird Species of Concern that provide useful management information for consideration:</p> <ul style="list-style-type: none"> • North American Waterbird Conservation Plan • U.S. Shorebird Conservation Plan • Partners in Flight Bird Conservation Plans • North American Waterfowl Management Plan • List of Threatened and Endangered Bird Species in 50 CFR 17.11 (https://www.ecfr.gov/current/title-50/chapter-I/subchapter-B/part-17/subpart-B/section-17.11)

Table 3: Affected Environment Resources

<p>The following resources can help provide baseline information for the description of the affected environment:</p>
<p>Avian Conservation Assessment Database (ACAD) Contains biological information, including global population estimates, used and generated by the National PIF Species Assessment Process (https://pif.birdconservancy.org/avian-conservation-assessment-database/)</p>
<p>Avian Knowledge Network (AKN) Distribution, occurrence, and relative abundance data. (https://avianknowledge.net/)</p>
<p>Information for Planning and Consultation (IPaC) (https://ecos.fws.gov/ipac/) a project planning tool which streamlines the USFWS environmental review process</p>
<p>Partnership plans PIF, shorebird and waterbird plans, JV plans</p>

Describe Environmental Consequences, Affects Analysis and Stressors Table

- Describe if there are any resources within the project footprint that are essential to the breeding, feeding, and sheltering needs of any bird species of concern present in each proposed project alternative.
- Identify the migratory bird species of concern and any mission-sensitive species that are likely to be affected by the project.
- Use available information on breeding distribution, population trend, relative density, and threats to populations (data can be obtained from resources listed above) to objectively determine vulnerability of identified species of concern to the proposed action.
- Use the stressor management approach to identify potential direct interactions and indirect impacts to migratory birds and their habitats.

- Identify the various stressors and their impacts on SOC, within the affected environment, using a table format.
- Summarize this data in a table format.

Figure 2: Defining Stressor Science and Impact Management

Stressor Science: *Stressor science clarifies what project-related impacts a project proponent should address to protect migratory birds. By focusing on a finite list of stressors and applying focused conservation measures to address them to the greatest extent practicable, a project proponent can use the environmental analysis to express “due diligence” with regards to impacts and their resources. Stressor awareness guides decision-making with regards to the information and means a proponent will need to implement effective conservation measures, which ultimately benefits both the project proponent and the resource. See activity specific BMP’s below for stressor consideration and measures to avoid and minimize impacts to migratory birds.*

Impact Management: *Impact management is a science-based process empowering project proponents to make planning decisions that reduce project-related impacts on migratory birds and their resources. Impact management is used to link cause and effect relationships between project activities, the stressors produced, and the effect of stressors on bird demography (e.g., survival, fecundity).*

- Identify any proposed mitigation or minimization measures for migratory bird resources that are included in the project design and how they are intended to avoid or minimize impacts.
- Identify any additional conservation measures that are intended to avoid or minimize impacts on migratory birds and

whether they, if applicable, will reduce the impacts and how.

- Mitigation or any necessary monitoring of migratory birds should be identified in the NEPA document.
- If necessary, details of type, length, and responsible parties for post-construction-monitoring necessary to meet the requirement for monitoring the effectiveness of the mitigation should be explicitly stated in the NEPA documentation.
- Using a table format, illustrate, for each alternative, impacts on the SOC and mitigation measures proposed to offset adverse effects.
- It is critical to illustrate and articulate what measures are being implemented to reduce the severity of impacts/effects on the SOC so that you can conclude that the subject action(s) will not have a significant adverse impact on any population of migratory bird species, or their habitat.

Best Management Practices

USACE has a responsibility to avoid or minimize impacts to migratory birds. USACE BMP's include management actions or categories of actions to avoid or minimize unintentional take of migratory birds as well as measures aimed at conserving migratory bird habitats and populations. Ecosystem management and utilization of conservation tools and techniques to promote and provide quality habitat for MBTA species should be part of any USACE projects' BMP's. Maintaining habitat connectivity, per the America the Beautiful Initiative, will further efforts to minimize impacts to migratory birds. Efforts can include minimizing or eliminating production of



Blue-winged Teal | Credit: Chris Eberly

project-related stressors and/or avoiding or minimizing the exposure of those stressors on birds and their resources. There are many forms of avoidance and minimization measures that can be used to reduce stressor-related impacts, including mitigation, when appropriate. Practical mitigation measures (i.e., those that can be reasonably accomplished within the scope of a proposed alternative, to include offsite mitigation) should be identified to address the impacts of the proposed action and alternatives. Any measures implemented should be cost effective and directly alleviate one or more stressors. The ultimate goal is to avoid or minimize exposures of the resource to the stressor, which will in turn reduce threats and assist with meeting migratory bird conservation goals. The project proponent/project manager should ensure that adequate funding is provided to implement any selected mitigation measures and should follow up in coordination with USACE staff during project implementation (construction and operation) to ensure that mitigation measures are carried out and impacts are not greater than predicted.

Project Planning

The most effective way to avoid impacts to migratory birds is through proper project siting. Siting measures include but are not limited to:

- Using disturbed lands to the maximum extent practicable;
- Minimizing the area of disturbance;
- Minimizing fragmentation of intact habitat blocks;
- Avoiding disturbance to important migratory corridors or wintering areas; and
- Avoiding impacts to features that attract birds (e.g., wetlands).

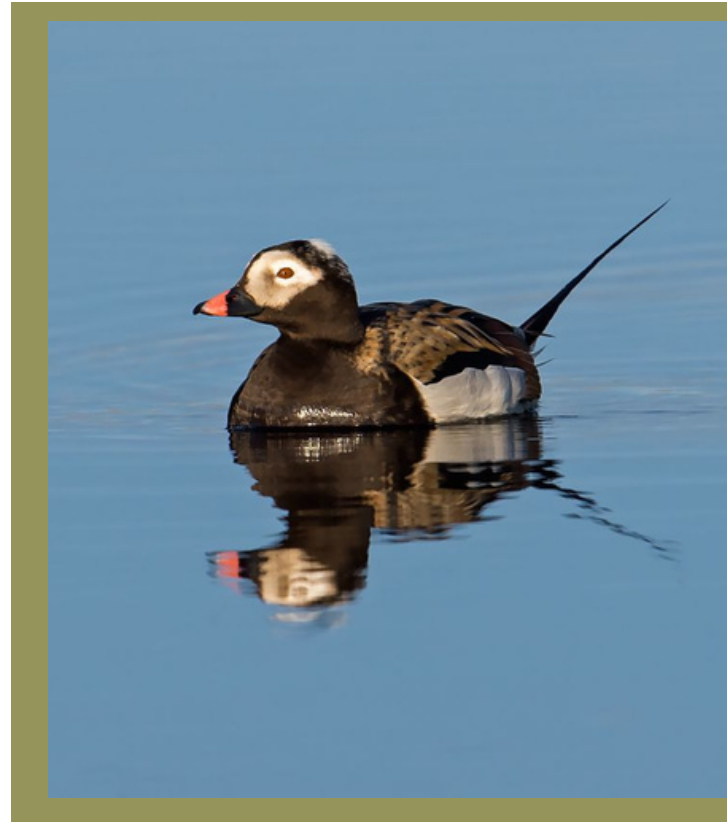
Stressor Analysis

The goal of stressor management is to assess the link between a project's activities and its effects on species conservation potential. This approach identifies impacts before they occur and allows project development to include BMPs to reduce those impacts. This is in contrast to managing the consequences of an effect that has already occurred. A stressor is any alteration or addition to the environment that when applied to a resource, becomes a threat to bird habitat, populations, or individuals. Stressors can act directly (e.g., collision mortality) or indirectly (e.g., decreased food supply), resulting in negative consequences that can be a primary force in shaping bird community composition and structure. A list of common avian stressors can be found in Table 4.

Analyzing stressors raises awareness of potential effects of the proposed actions to migratory birds and their habitat, provides a transparent and logical step-wise process for assessing project-related impacts, and provides clear direction for implementing appropriate BMPs measures.

General Measures

As a federal agency, in the spirit of EO 13186, USACE has a responsibility to avoid or minimize impacts to migratory birds. This may be done by minimizing or eliminating production of project-related stressors and/or avoiding or minimizing the exposure of those stressors on birds and their resources along with the implementation of BMPs.



Long-tailed Duck | Credit: C Van Tassel

Funding considerations should include what is necessary to fund the actual BMPs, mitigation, and/or avoidance measures, as well as what is necessary to support follow up to ensure that all measures are carried out and impacts are not greater than predicted.

Migratory birds are routinely associated with USACE activities and projects. Conflicts are most likely to occur during the nesting season when active nests (i.e., nests containing eggs or young) may be present. Adult birds are capable of leaving a project site when threatened by construction or maintenance activities, but eggs and nestlings are not, and therefore are

Table 4: Migratory Bird Stressors, Threats, and Consequences. Data Source: USFWS

Stressor	Threat	Consequence
Artificial light	<ul style="list-style-type: none"> • Displacement • Increased predation 	<ul style="list-style-type: none"> • Reduced productivity • Reduced survival • Local population decline
Artificial perches	<ul style="list-style-type: none"> • Increased predation & parasitism 	<ul style="list-style-type: none"> • Reduced productivity • Reduced survival
Chemical contamination (includes pesticide application)	<ul style="list-style-type: none"> • Decreased food supply • Ingestion • Abnormal egg/chick development 	<ul style="list-style-type: none"> • Increased competition • Inability to provision • Reduced productivity • Reduced health & survival • Death
Human disturbance (presence)	<ul style="list-style-type: none"> • Displacement • Increased predation and parasitism 	<ul style="list-style-type: none"> • Local population declines • Reduced productivity • Reduced survival • Death
Invasive species introduction	<ul style="list-style-type: none"> • Increased predation & parasitism • Increased competition • Change in vegetation structure • Increase in disease 	<ul style="list-style-type: none"> • Reduced productivity • Reduced survival • Death
Noise	<ul style="list-style-type: none"> • Decreased pairing success • Displacement 	<ul style="list-style-type: none"> • Reduced productivity • Reduced survival • Local population declines
Structural addition to landscape	<ul style="list-style-type: none"> • Barrier to movement • Displacement • Reduced gene flow • Collisions 	<ul style="list-style-type: none"> • Local population declines • Reduced pairing success • Reduced genetic diversity • Injury • Death
Vegetation manipulation	<ul style="list-style-type: none"> • Decreased structural complexity • Increased predation & parasitism • Displacement 	<ul style="list-style-type: none"> • Local population declines • Reduced productivity • Reduced survival
Vegetation removal	<ul style="list-style-type: none"> • Resource loss • Degradation in resource quality • Fragmentation 	<ul style="list-style-type: none"> • Increased competition • Reduced productivity • Reduced survival • Local population declines

more vulnerable. These early life stages of birds may be directly impacted by activities such as new construction, major renovation, facility/grounds maintenance activities, facility lighting, engineering activities (e.g., navigation dredging, dredged-material disposal, beach nourishment), and window glass or towers. Therefore, USACE staff should schedule activities with potential to result in "take" of migratory birds outside of active nesting season, to the extent practicable. The best

process to avoid impacts to migratory birds and potentially against projects being stopped and reassessed by USFWS is to ensure that no active nests are located within or in the vicinity of the project area. The most effective tool to identify active nests is by conducting a field survey with qualified biologists of the project area.

There are many general and specific BMPs that can be implemented, including but not limited to:

- Do not collect birds (live or dead) or their parts (e.g., feathers) or nests without a valid permit.
- Avoid construction, demolition, installation, and maintenance activities during migratory bird nesting/breeding season to the extent practicable. For example, to the extent feasible, exterior maintenance of buildings should be conducted outside the migratory bird nesting season or when active nests are not present.
- In general, nesting season for migratory birds occurs between February — September; however, there is significant species-specific variation, as well as significant variation based on location, within the country. USACE staff should contact their local USFWS ESFO for specific information regarding the project location. Additional info on nesting season for migratory birds can be found at (<https://data.pointblue.org/apps/rail/>).
- The USFWS may grant some leeway for actions related to human health or safety (e.g., unsafe building demolition), but will also take into account whether (and what species) birds are actively nesting within a structure.
- Where project work cannot occur outside the migratory bird nesting season, conduct surveys prior to scheduled activity to determine if active nests are present within the area of impact. Generally, the surveys should be conducted no more than five days prior to scheduled activity. Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of disturbance. USACE staff should coordinate with the USFWS ESFO, as necessary, regarding timing and the appropriate area to be surveyed.

Figure 3: General Measure BMPs Summarized



- Prior to removal of an inactive nest, ensure that the nest is not protected under ESA or BGEPA. Nests protected under ESA or BGEPA cannot be removed without a valid permit.
- Protect birds from working animals (e.g., horses, K-9s) or pets by keeping dogs and cats from straying and potentially harming birds by disturbing, chasing, and even killing them.

- Guidance on recommended survey protocol and a sample of a survey checklist that the surveyor can use to document the survey for active nests can be found at: <https://corpslakes.erdc.dren.mil/employees/bird/initiative.cfm>. If active nests are identified within or in the vicinity of a project site, avoid actions at the site until nestlings have fledged or the nest fails. If activity must occur, establish a buffer zone around the nest and no activities should occur within that zone until nestlings have fledged and left the nest area. The dimension of the buffer zone will depend on the proposed activity, habitat type, and species present. USACE staff should coordinate with USFWS ESFO regarding the appropriate buffer zone for the project. If establishing a buffer zone is not feasible, contact the USFWS ESFO for guidance to minimize impacts to migratory birds associated with the proposed project or removal of an active nest. Refer to the USFWS June 14, 2018, memo "Destruction and Relocation of Migratory Bird Nest Contents" for further information on inactive nest destruction, the Good Samaritan provision (allows temporary possession of eggs or chicks for transport to a licensed rehabilitator), special purpose permits, and other permits and authorizations. USFWS issues Federal Migratory Bird Rehabilitation permits and can assist with identifying an appropriate rehabilitator experienced with the types of migratory birds to be rehabilitated.
- Limit roadside food sources or habitat plantings (including landscaping projects near roads) to trees that do not bear fruit (e.g., choosing not to plant attractants like serviceberries, wild cherries, spicebush, magnolia, sassafras, flowering dogwood, hawthorn, and crabapple).
- Stay within existing roads and trails to the extent feasible.
- Avoid vegetation removal, trimming, and maintenance (e.g., general landscaping activities, tree trimming, grubbing, etc.) during the nesting season. Periodic vegetation maintenance (e.g., grass mowing once a week) does not require a nesting bird survey prior to each maintenance event. When possible USACE staff should consider clearing woody vegetation a year in advance of a proposed action.
- In accordance with Executive Orders 13112 & 13751, prevent release of non-native plants within project areas and use native species in all USACE plantings.
- Minimize wildfire potential by reducing hazards that can cause accidental fires.

Lighting, Noise, and Structures

- Prevent bird injury or death due to collisions with windows by turning off indoor lights at night, putting up curtains, or placing window decals on buildings to improve avian ability to detect and avoid glass.
- Minimize and shield outdoor lighting (e.g., downshield lights, install motion sensors).
- Proactive measures to discourage attractions for perching and nesting areas in structures should be considered. Minimize areas attractive to birds such as ledges, overhangs, and exposed beams. Where they exist, measures to make them less attractive and restrict access should be considered. Use physical barriers to keep birds out such as closing entry points like doors and windows or installing netting or hardware cloth over attractive areas. Where birds cannot be physically kept out of areas, use deterrents such as bird spikes, optical gel, visual, and audio deterrents.
- Use baffle boxes around generators.

Chemical Contamination

- Avoid soil contamination by using drip pans underneath equipment and containment zones at construction sites and when refueling vehicles or equipment.
- Avoid contaminating natural aquatic and wetland systems with runoff by limiting all equipment maintenance, staging laydown, and dispensing of fuel, oil, etc., to designated upland areas.
- Any use of pesticides or rodenticides shall comply with the applicable Federal and State laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by USACE. Rodenticides and other vector control devices should be used in accordance with the manufacturer's instructions to limit access to non-target species.



Common Nighthawk | Credit: Chris Eberly

Tower-Specific Practices

- Follow USFWS Migratory Bird Program "Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance and Decommissioning (March 2021)".
- Build towers in degraded areas. Avoid building in environmentally sensitive areas to the extent feasible.
- Avoid building lighted towers in areas with frequent inclement weather (e.g., fog) in order to prevent bird injury or death due to collisions with towers.

- Avoid building towers in areas with high concentration of birds (e.g., ridges, canyons, cliffs, passes, and fissures). If towers must be built within these areas, offset towers by at least 50 meters from the geologic features, if feasible.
- Install anti-perching devices on towers to prevent nesting.
- If a tower must be lit for aviation safety, only white or red flashing lights should be used, unless otherwise required by the FFA.

Power Line and Wind Turbines Practices

- Place electric power lines to facilities underground or on the surface as insulated, shielded wire, where practicable. Shield above ground lines, transformers, or conductors as recommended by the Avian Power Line Interaction Committee ([https://www.aplic.org/uploads/files/2643/SuggestedPractices2006\(LR-2\).pdf](https://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf)).
- To minimize the risk of bird strikes, place the maximum height of the rotor-swept area no greater than the height of surrounding trees or geographic features, if feasible.
- Use the minimum turbine blade revolution per minute (rpm) on wind turbines, and give consideration to reducing rpm during spring and fall migrations and at night.
- If all conservation measures have been implemented and there is still the potential for unavoidable take and or negative habitat impacts, USACE staff should consider whether impact mitigation is appropriate. Compensation could come in the form of habitat restoration or enhancement

Avian Power Line Interaction Committee (APLIC). 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Edison Electric Institute and APLIC. Washington, D.C.