

Ecology

Miscellaneous Resources

Overview

Fish and Wildlife Coordination Act

Bald and Golden Eagle Protection Act

Migratory Bird Treaty Act

Magnuson-Stevens Fishery Conservation and Management Act

Invasive Species

Marine Mammal Protection Act

Game and Fish Code – Taking of Nongame Species

OVERVIEW

This guidebook describes GDOT procedures for documenting project compliance with the following federal regulations: Fish and Wildlife Coordination Act (FWCA), Bald and Golden Eagle Protection Act (BGEPA), Migratory Bird Treaty Act (MBTA), Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Executive Order (EO) 13751 (Invasive Species), and the Marine Mammal Protection Act (MMPA). This guidebook also describes GDOT procedures for documenting project compliance with Georgia Game and Fish Code (OCGA § 27-1-28) pertaining to the taking of nongame species. Procedures for documenting compliance with the Endangered Species Act of 1973 (16 USC § 1531), the Georgia Wildflower Preservation Act (OCGA §12-6-170) and the Georgia Endangered Wildlife Act of 1973 (OCGA § 27-3-130) are described in the *Protected Species Assessment and Coordination* guidebook.

Ecology Environmental Procedures Guidebooks,
GDOT Office of Environmental Services

For consultant projects, the GDOT Ecologist should be contacted prior to communicating with any resource agencies regarding potential effects to ecology resources from GDOT projects. The GDOT Ecologist must also be copied on all correspondence between the consultant and resource agencies.

FISH AND WILDLIFE COORDINATION ACT

Regulatory Overview

The [FWCA \(48 Stat. 401, as amended; 16 USC § 661 et. seq.\)](#) provides that wildlife conservation receives equal consideration and is coordinated with other features of water-resource development programs. Wildlife is defined broadly in 16 USC § 666(b) of the act to birds, fish, mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent. The FWCA applies when “waters of any stream or body of water are authorized to be impounded, diverted, deepened or otherwise controlled or modified for any purpose whatever” under a federal permit or license. Coordination with US Fish and Wildlife Service (USFWS) and the state agency “exercising administration over the wildlife resources of the particular State” where the action occurs (i.e., Georgia Department of Natural Resources [GADNR] Wildlife Resources Division [WRD]) is required prior to permit issuance to prevent loss of and damage to wildlife resources. GDOT and its agency partners developed the [Joint Coordination Procedures \(JCP\) Standard Operating Procedure \(SOP\) for Interagency Coordination Pursuant to the FWCA](#) that describe the process for coordination pursuant to FWCA for federally funded projects. However, for all other projects, the JCP SOP can be referenced for project and programmatic approaches for meeting requirements of FWCA.

Applicable Projects

FWCA consultation is not required for any project where there are no effects on water resources or that all project effects fall into one of the categories listed in the JCP SOP. Projects are also eligible for programmatic coordination provided they meet either the connectivity criteria or the water quality criteria described in the JCP SOP. Please note that the lead Federal Agency or USFWS may request project specific FWCA coordination for any project, even if the project does not require coordination per the JCP.

Field Assessment

The Ecologist must survey all existing drainage structures (i.e., bridges and culverts) crossing perennial streams and/or high-quality wetlands¹ for aquatic and terrestrial wildlife connectivity. A connectivity assessment, as well as photos of the culvert inlet and outlet or conditions beneath the bridge should be included in the Ecology Resource Survey and Assessment of Effects Report (ERS AOE).

Agency Coordination

For federally funded projects, GDOT shall initiate and conduct FWCA coordination on behalf of the lead Federal Agency upon transmittal of the ERS AOE. While FWCA coordination is still conducted on state funded projects, GDOT does not initiate it on behalf of the lead Federal Agency (US Army Corps of Engineers [USACE]). Refer to the JCP SOP for compliance documentation, coordination procedures, timelines for agency concurrence, and re-initiation

¹ As determined by the US Army Corps of Engineers SOP for Compensatory Mitigation

requirements. Agency concurrence is not required when GDOT follows programmatic coordination criteria.

BALD AND GOLDEN EAGLE PROTECTION ACT

Regulatory Overview

The [BGEPA \(54 Stat. 250, as amended, 16 USC § 668a – d\)](#) was enacted to protect bald eagles (*Haliaeetus leucocephalus*), and later amended to include golden eagles (*Aquila chrysaetos*), their nests, eggs, and parts thereof. The act prohibits take, possession, selling, purchasing, bartering, offering to sell, purchase or barter, transporting, and exporting or importing of bald and golden eagles alive or dead or any part, nests or eggs thereof without a valid permit from USFWS. An inactive nest remains protected under the BGEPA, as it may become active again. The BGEPA does not protect bald or golden eagle habitat. The BGEPA is regulated by USFWS and the agency can pursue criminal prosecution and/or civil penalties for violations of the Act.

Under the BGEPA, “take” is defined as to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb.” For GDOT, the most likely “take” scenarios would involve a project that could “disturb” bald eagles or “destroy” an existing nest located within project limits through nesting tree removal. The BGEPA defines “disturb” as, “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.” According to the [USFWS National Bald Eagle Management Guidelines](#), in addition to immediate impacts, this definition also covers impacts that result from human-induced alterations around a previously used nest site (because of high nest site fidelity from year-to-year) during a time when eagles are not present, if such alterations cause injury, death, or nest abandonment.

Applicable Projects

Per the *JCP SOP for the BGEPA*, coordination with USFWS and WRD is required for projects with the potential to impact known eagle nests within three miles of the environmental survey boundary (ESB) and that have potential nesting/foraging habitat within the ESB. The early coordination response from Georgia’s Natural, Archaeological, and Historic Resources GIS (GNAHRGIS) shall be reviewed to determine if bald or golden eagles have been documented within three miles of the ESB (See *Ecology Resource Survey* guidebook).

Field Assessment

If bald or golden eagles were documented through GNAHRGIS as occurring within three miles of the project, the project corridor shall be surveyed for suitable nesting/foraging habitat in accordance with the [GDOT State of Georgia Protected Species Habitat & Presence/Absence Survey Methodologies Manual \(Protected Species Survey Methodology Manual\)](#).

GDOT relies on WRD occurrence records within three miles to report known nest locations. If an eagle nest is known to occur within one mile of the ESB based on the GNAHRGIS list, then technical assistance shall be requested from USFWS. If there are no known occurrences of bald or golden eagles based on the GNAHRGIS list, then no survey is required unless recommended by WRD, USFWS, or the lead Federal Agency. If a nest is observed during the field survey that was not previously identified through coordination with WRD, please submit element occurrence data using the [Survey 123 EO Reporting Form](#). GDOT should be entered as the Company/Affiliation field.

Effect Analysis

If the ESB is within three miles of a known eagle nest, the location shall be documented in the ERSR. If suitable nesting and foraging habitat is identified during field assessment of the ESB, the location of suitable habitat should be identified in the ERSR. If the project is within one mile of an eagle nest, technical assistance should be requested from USFWS. The presence of a nest within one mile of the project may require project-specific avoidance and minimization measures (AMMs) and/or implementation of Special Provision (SP) 107.23H. Refer to the *BGEPA Permit Toolkit*, available at the guidebook website linked above, to determine if a project will result in “take” of bald or golden eagles:

MIGRATORY BIRD TREATY ACT

Regulatory Overview

The [MBTA \[40 Stat. 755, 16 USC § 703-712 \(1918\)\]](#) was created to ensure healthy populations of birds migrating between the US and Canada, and later amended to include Mexico and Japan, as shared resources. The MBTA states that it is “unlawful at any time by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess...any such bird or any part, nest, or egg of any such bird” of the species listed as protected under MBTA ([50 CFR § 10.13](#)). The USFWS has authority for enforcement of the MBTA. The MBTA does not include habitat protection provisions and does not restrict modification or destruction of migratory bird habitat. Further, the MBTA does not include harassment prohibitions.

Applicable Projects

Migratory bird species typically nesting on GDOT projects include barn swallows (*Hirundo rustica*), cliff swallows (*Petrochelidon pyrrhonota*), and eastern phoebes (*Sayornis phoebe*). These species commonly nest on bridges and in reinforced concrete box culverts. Osprey (*Pandion haliaetus*) and other birds protected by the MBTA may also nest on GDOT bridges or within GDOT rights-of-way. Compliance with MBTA applies to any GDOT project, but most frequently to those involving bridge demolition or maintenance, and box culvert replacement, extension, or maintenance. Take of migratory birds could occur if demolition or maintenance activities result in migratory bird mortality or destruction of an active nest containing young or eggs. Refer to the *JCP SOP for Migratory Birds and Bats Located on Bridges and Culverts* for additional information.

Field Assessment

Prior to the field survey, the Ecologist shall review descriptions and nest characteristics of species commonly found on GDOT projects. All bridges and box culverts along a project corridor must be inspected for evidence of migratory bird nesting, including active or inactive nests, within five years of scheduled demolition/maintenance activities. Use of binoculars is recommended to visually inspect inaccessible bridge sections. Abandoned structures that may be impacted by the project must also be assessed for use by owls, vultures and other MBTA listed species. A current WRD *Georgia Bats in Bridges Datasheet*, that includes a section for migratory birds, must be completed for each structure inspected, submitted via Survey123, and attached to the Ecology Resource Survey Report (ERSR), ERS AOE and/or Addendum.

Avoidance and Minimization

Special Provision 107.23G provides standard AMMs for migratory birds and applies to demolition of bridges or box culverts, box culvert extensions, and maintenance on box culverts or the underside of bridges. For projects involving bridge demolition or maintenance on the bridge underside, the contractor must notify the US Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) 30 days prior to the start of work on any bridge. APHIS holds an annual contract with GDOT to prevent migratory bird nesting on all bridges scheduled for demolition or maintenance in a given year.

Demolition, extension, or maintenance of any box culvert must take place outside of the breeding and nesting season of migratory birds (April 1 through August 31), unless exclusionary barriers are installed prior to March 1. Refer to SP 107.23G available on GDOT The Source website for more detailed information on AMMs. If the project does not contain any structures providing migratory bird nesting habitat (i.e., bridges, box culverts, or abandoned structures) or there is no work proposed on such structures, then AMMs are not required.

MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

Regulatory Overview

The [MSFCMA \(50 CFR § 600\)](#) was enacted to protect marine fisheries resources with National Oceanic and Atmospheric Administration (NOAA) Fisheries holding statutory authority. The MSFCMA identifies essential fish habitat (EFH) as water and substrate conditions needed by a federally managed marine species to sustainably spawn, breed, feed, or grow to maturity, and includes rivers and estuaries used for spawning by anadromous species. Any project that is federally funded/authorized or is a state action that may adversely affect designated EFH, requires consultation with NOAA Fisheries.

The MSFCMA created eight regional fishery management councils that develop and continually revise Fishery Management Plans (FMPs) for federal and non-federal protected fisheries. Georgia is in the South Atlantic Fisheries Management Council (SAFMC). Each FMP designates EFH for that specific fishery (50 CFR § 600 Subpart J). South Atlantic Council's EFH Designations for each FMP are provided on the [SAFMC website](#).

Applicable Projects

A majority of EFH in Georgia is located within the six coastal counties (Camden, Glynn, McIntosh, Liberty, Bryan, and Chatham); however, EFH in Georgia is not limited to these counties. The NOAA Fisheries [Southeast Region EFH Mapper](#) (i.e., Inland EFH Mapping tool) available on the NOAA Fisheries website depicts designated EFH and may be consulted for reference but should not be used as the sole source to identify the presence of EFH. To determine if a project may contain EFH, the *GDOT National Marine Fisheries Service (NMFS) Coordination Tools* should be used. These tools can be found on the [GDOT Ecology SharePoint](#). Early coordination with NOAA Fisheries is also recommended to confirm EFH extent identified by the NMFS Coordination Tools prior to field survey.

Projects in non-tidal waters (e.g., freshwater wetlands) that may cause indirect impacts to EFH may also be subject to EFH regulations. An example of indirect effects would be a road project in freshwater wetlands that would have water quality impacts to nearby EFH through flow pathways. NOAA Fisheries Southeast Regional Office (SERO), Habitat Conservation Division can assist in determining if EFH is present if there are still questions after this process has been completed.

Field Assessment

Projects containing EFH identified by the *NMFS Coordination Tools* and/or early coordination shall be evaluated for the presence of habitat types designated as EFH by the SAFMC. Potential EFH areas must be evaluated during low tide conditions when substrate is visible. If SAFMC designated habitat types (i.e., EFH) are identified, all areas shall be GPS located and photographed. Habitat quality shall be evaluated with any existing impairments documented. Impaired habitat indicators may include, but are not limited to foam, bubbles, oil, scum, dead organisms, erosion, trash present, vegetative debris, dumping, excessive algae, dredging, dock/pier present, and or artificial water control (groin, jetty, dike, etc.). Substrate characteristics, vegetation, fish species, and/or shellfish (e.g., oysters) observed with EFH shall be recorded.

Effects Analysis

The MSFCMA defines adverse effect as “any impact which reduces quality and/or quantity of EFH.” Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in fecundity), or cumulative effects (outside of EFH) of the action. If EFH is identified in the ESB, potential AMMs, including conservation measures in the [Programmatic Essential Fish Habitat Assessment for Transportation Activities and Projects Regularly Undertaken in North Carolina, South Carolina, and Georgia](#) (Programmatic EFH Assessment) shall be considered and evaluated during the Avoidance and Minimization Measures Meeting (A3M) (See *Assessment of Effects* guidebook). Refer to the *Ecology General Project Report Template and Guidance* for information that shall be included for an EFH effect analysis and AMMs. Request technical assistance from the NOAA Fisheries SERO, as needed, for developing a recommended EFH effect determination.

Agency Coordination

Programmatic EFH Assessment

The Programmatic EFH Assessment is an interagency agreement between NOAA Fisheries and the FHWA intended to reduce the number of projects subject to individual EFH consultation. The consultation is applicable in tidally influenced Waters of the US (WOTUS) and non-tidal waters supporting anadromous fish. The Programmatic EFH Assessment includes a list of activities and project types that qualify for programmatic consultation with specific limitations and restrictions (including impact thresholds). The Programmatic EFH Assessment includes three categories of conservation measures: 1) conservation measures applicable to all projects and activities; 2) conservation measures for activities common to several project types; and 3) conservation measures for specific transportation project types.

If a project includes all applicable conservation measures described in the Programmatic EFH Assessment, the Verification Form included in Appendix C of the Programmatic EFH Assessment, which is an output of the *GDOT National Marine Fisheries Service (NMFS) Coordination Tools*, shall be attached to the ERS AOE or Addendum. The ERS AOE or Addendum transmittal letter should request that the NOAA Fisheries SERO Habitat Conservation Division initiate programmatic consultation. Refer to the Programmatic EFH Assessment for agency consultation procedures and timelines.

The GDOT NMFS Coordination Tool shall be used to document conservation measures per requirements outlined in the Programmatic EFH Assessment. The NMFS resource summary output shall be used to assess potential of EFH presence in the ESB prior to initial field survey and be attached to the ERSR. The conservation measures output tables and resource summary output should be transmitted with the ERS AOE and/or Addendum. Under the Programmatic EFH Assessment, concurrence from NMFS shall be issued within 15 calendar days of receipt of the submission form. If no response is received from NMFS, then coverage under the Programmatic Consultation is extended to the action and the transportation agency may proceed on the 15th calendar day.

If the Programmatic EFH Assessment does not apply to the project, then incorporation of as many of the conservation measures as appropriate may reduce the overall consultation timeline with NMFS during the individual EFH consultation and may allow for reduced restrictions, in some cases. Regardless of whether the project meets the Programmatic EFH Assessment requirements, the GDOT NMFS Coordination Tool shall be used to document the conservation measures that will be implemented on the project and those that are not appropriate (with justification). The conservation measures output tables and resource summary output shall be submitted with the ERS AOE and/or Addendum to assist in NMFS project review.

Because this is in an interagency agreement between NOAA Fisheries and FHWA, it only applies to GDOT projects receiving federal funding from FHWA. However, conservation measures included in the Programmatic EFH Assessment should be documented in the ERS AOE to expedite EFH consultation required for federally authorized or state-funded projects.

Individual EFH Consultation

Individual EFH consultation is required for GDOT projects that would result in an adverse effect to EFH, but do not involve the described projects and activities, do not follow applicable EFH conservation measures, or exceed impact thresholds included in the Programmatic EFH Assessment. Projects not characterized under one of the six main project types, but that include actions common to several project types described in the Programmatic EFH Assessment, will require individual consultation. However, incorporating conservation measures described in the Programmatic EFH Assessment could lead to a streamlined EFH consultation.

For projects requiring individual consultation, the EFH Screening Form and Part II of the Verification Form included in Appendix C of the Programmatic EFH Assessment must be completed and attached to the ERS AOE and/or Addendum. Initiation of EFH consultation with NOAA Fisheries should be requested with transmittal of the ERS AOE or Addendum. Based on the level of effect, the following EFH consultations are available:

- > General Concurrence - NOAA Fisheries can issue a general concurrence on specific types of federal actions that do not cause greater than minimal adverse effects on EFH and *no further consultation* is generally required.
- > Abbreviated Consultation - An abbreviated consultation is only completed if no general concurrence, programmatic consultation, or existing environmental review process is available or appropriate for the federal action. Abbreviated consultation is performed for those projects where the effect on EFH will not be substantial.
- > Expanded Consultation - Expanded consultation should be completed when no other review process is available or appropriate for the federal action, and that action may result in *substantial adverse effects on EFH*. Procedures for expanded consultation allow for more detailed analysis of effects and more time for NOAA Fisheries to coordinate with the action agency and develop EFH conservation recommendations.

If a portion or all impacts to EFH *do not* overlap with impacts to WOTUS that will be mitigated under the USACE Section 404 permit, Ecologists should inform project team members, particularly the Project Manager, Environmental Analyst, and the GDOT Special Projects Coordinator, as NOAA Fisheries generally requires additional mitigation in these instances.

INVASIVE SPECIES

Regulatory Overview

[Executive Order 13751 \(81 FR 88609\)](#), which amends EO 13112, was written to support the National Environmental Policy Act, the Nonindigenous Aquatic Nuisance Prevention and Control Act, the Plant Protection Act, the Lacey Act, the Endangered Species Act, the Noxious Weed Control and Eradication Act, and other acts pertaining to invasive species and conservation of native species. This EO aims to prevent introduction, establishment and spread of invasive species as well as coordinate with federal, state, public and private entities, and efforts to support this mission. The EO prohibits authorizing, funding, or implementing actions that might

contribute to introduction, establishment or spreading of invasive species unless it has been determined that benefits of these actions outweigh the harm if risk has been minimized.

Applicable Projects

In accordance with EO 13751, surveys for populations [of Categories 1 and 1 Alert invasive species](#) as defined by the Georgia Invasive Species Council that may be spread during construction shall be conducted for all GDOT projects.

Field Assessment

The Ecologist must record all invasive species data required in the *Ecology General Project Report Template and Guidance* in the field. Representative photos of invasive species identified in the ESB should be captured. The boundaries of large (i.e., greater than 1,000 square feet) infestations of invasive species must be GPS located and depicted on Habitat Maps. All invasive species data collected in the field must be entered into a registered [Early Detection and Distribution Mapping System \(EDDMapS\)](#) account. Use of the EDDMapS mobile app is recommended for field collection of invasive species locations and photographs.

Avoidance and Minimization

The spread of invasive species is typically minimized on GDOT projects by the Contractor's adherence to [GDOT Standard Specifications Construction of Transportation Systems](#) Section 201, Clearing and Grubbing of Right-of-Way.

MARINE MAMMAL PROTECTION ACT

Regulatory Overview

The [MMPA \(16 USC §1371\)](#), regulated by USFWS and NOAA Fisheries, provides for the protection of marine mammals by prohibiting, except under certain specified conditions, the taking, possession and commerce of such mammals. Under the MMPA, NOAA Fisheries is responsible for the protection of whales, dolphins, porpoises, seals, and sea lions; and USFWS is responsible for the protection of walrus, manatees, sea otters, and polar bears. All take and importation is prohibited with exceptions for Alaska natives, scientific research, management of species, and incidental take. Included in "incidental take" is harassment of species, which is defined as "pursuit, torment or annoyance which has potential to injure or disturb" aspects of the mammals' life history.

Applicable Projects

Projects that may be subject to the MMPA include projects containing coastal or intracoastal waterways and are typically limited to the six coastal counties (Camden, Glynn, McIntosh, Liberty, Bryan, and Chatham). Species protected under the MMPA known by WRD to occur in Georgia tidal estuaries and Atlantic Ocean waters out to three nautical miles from the coastline include the West Indian manatee (*Trichechus manatus*) and North Atlantic right whale (*Eubalaena glacialis*), both of which are also protected under the Endangered Species Act, and the humpback whale (*Megaptera novaeangliae*) and common bottlenose dolphin (*Tursiops truncatus*).

Effects Analysis

If species protected under the MMPA may be affected by a project action, the species must be discussed during the A3M and addressed in the ERS AOE and/or Addendum. A MMPA subsection shall be added to Section III of the ERS AOE and/or Addendum and include a habitat assessment and effect analysis with an AMMs discussion. All avoidance, minimization, and mitigation measures must be documented. The effects analysis will include a determination of whether the project will result in “take” of marine mammals as defined under the MMPA. Incidental take of marine mammals from construction projects typically results from harassment due to impacts associated with underwater sound.

Agency Coordination

If a project has been determined to result in “take” of marine mammals, an incidental take authorization must be obtained from USFWS or NOAA Fisheries, depending on the species. Incidental take by harassment from GDOT construction or maintenance activities requires an Incidental Harassment Authorization (IHA) and is effective for up to one year. If the project is longer than one year and up to five years, a Letter of Authorization (LOA) is needed in place of an IHA. An IHA or LOA are issued only if the take is of a small number of individuals would occur, would have a negligible impact, and would not have an adverse impact, which cannot be mitigated for, on population numbers that would hinder subsistence uses. Refer to the USFWS and NOAA Fisheries websites for detailed application instructions for marine mammals under USFWS and NOAA Fisheries jurisdiction, respectively. Issuance of an incidental take authorization (i.e., IHA or LOA) for marine mammal species also listed under the Endangered Species Act requires separate analysis under Section 7 of the Endangered Species Act (See *Protected Species Assessment and Coordination* guidebook).

GAME AND FISH CODE – TAKING OF NONGAME SPECIES

[Georgia Game and Fish Code](#) protects nongame species with exception of species listed at OCGA § 27-1-28(a). Under the Georgia Game and Fish Code it is unlawful to “hunt, trap, fish, take, possess, or transport any nongame species of wildlife.” Under OCGA § 27-1-2, “taking” is defined as “killing, capturing, destroying, catching, or seizing” and “wildlife” is defined as “any vertebrate or invertebrate animal life indigenous to this state or any species introduced or specified by the board and includes fish, except domestic fish produced by aquaculturists registered under OCGA § 27-4-255, mammals, birds, fish, amphibians, reptiles, crustaceans, and mollusks or any part thereof.” Species exceptions listed in the Georgia Game and Fish Code do not apply to species protected by the Endangered Species Act or the Georgia Endangered Wildlife Act.

Bats

All bat species are protected under the Georgia Game and Fish Code with some species receiving additional protections under the Endangered Species Act and/or the Georgia Endangered Wildlife Act.

Applicable Projects

Because bats commonly roost on bridges and culverts, all projects containing bridges and/or culverts must be assessed for evidence of bat presence and implement special provisions if evidence of bats are identified in the ESB. Refer to the *JCP SOP for Migratory Birds and Bats Located on Bridges and Culverts* for additional information.

Field Assessment

The Survey123 *Georgia Bats in Bridges* form shall be utilized to submit bridge and culvert inspection data for all bridges and culverts on GDOT projects or the WRD Georgia Bats in Bridges Datasheet may be completed during field assessment and subsequently submitted electronically via the mobile application to WRD. This data should be submitted regardless of whether bats or signs of bat use are observed at a site. The application is linked to the EDDMapS database and users can access uploaded data through the EDDMapS website to generate PDFs for GDOT reporting purposes. All evidence of bat activity must be photographed. Any documented roost not associated with the *Georgia Bats in Bridges Datasheet* (e.g., in trees, caves, etc.) should be reported to WRD for inclusion in the natural heritage database. Areas of potential roosting habitat should be photographed and recorded with a GPS.

Avoidance and Minimization

Special Provision 107.23G is included in GDOT contracts to protect bats occurring on bridges and culverts. If standard SP 107.23G measures are insufficient for bat protection, a project specific SP 107.23H should be drafted. It should always be ensured that there is no conflict between the SP 107.23G and SP 107.23H. Since the entire state of Georgia is within range of federally protected bat species, the consultation procedures presented in the JCP SOPs for consultation under the Endangered Species Act should be followed. The PM and Design should be consulted to ensure agency recommended measures are feasible for the project. Refer to *Ecology General Project Report Template and Guidance* for further bat avoidance and minimization guidance.

Guidebook Revision History

| Revision Description | Relevant Sections | Revision Date |
|---|---|----------------------|
| Initial Publication | All | 4/23/2021 |
| Added link to Bald and Golden Eagle Protection Act Toolkit | Bald and Golden Eagle Protection Act | 5/20/2021 |
| Minor editorial revisions & hyperlinks Procedural updates & clarifications | All FWCA-Agency Coordination; BGEPA-Effect Analysis; MBTA-Avoidance & Minimization; MSFCMA-Individual EFH Consultation; Invasive Species-Field Assessment; Game & Fish Code-Avoidance & Minimization | 11/7/2023 |
| Council Name Update | Invasive Species – Applicable Projects | 4/4/2024 |