

General Information -- Effects Determination Guidance for Endangered & Threatened Species (EDGES) (August 16, 2018)

The Army Corps of Engineers' Savannah District (Corps) and the Fish and Wildlife Service's Georgia Ecological Services office (FWS-GA) jointly developed *Effect Determination Guidance for Endangered and Threatened Species* (EDGES) to improve coordination on projects that may affect species listed under the Endangered Species Act (ESA). This document and the species-specific EDGES are living documents and may be altered at any time.

EDGES and SLOPES: In 1999, the Fish and Wildlife Service, National Marine Fisheries Service (NMFS), and Corps of Engineers consulted, nationwide, under Section 7 of the ESA on a draft Nationwide Permit 29, one of six new NWPS that replaced the expiring NWP 26. As a result of the consultation, most Corps' Districts and cooperating resource agencies crafted Standard Local Operating Procedures (SLOPES) to help districts reach accurate ESA determinations. The Corps SLOPES were finalized in 2000 and (1) applied to all NWPs that required a Pre-Construction Notification; (2) established a procedure for CORPS to notify FWS-GA, National Marine Fisheries Service, and Georgia Department of Natural Resources about new PCNs; and (3) set out timelines for these agencies to provide comments/recommendations on listed species and other impacts. The Corps SLOPES have been renewed every five years.

The intent of the EDGES is to target agency and applicant resources to speed ESA consultations and enhance listed species' conservation. Unlike the SLOPES, the EDGES apply to all Corps permitting actions (NWPs, JPNs, and other general and individual permits). They establish an ESA consultation framework and provide information to assist applicants locate, plan, and design projects to minimize listed species impacts, which can expedite regulatory approval. The 12 EDGES cover 41 Georgia listed species (Table 1). EDGES have not yet been developed for most listed plants in Georgia (Table 2). Applicants and the CORPS should use FWS' IPaC to determine which listed species may occur on the project area and which EDGES should be reviewed (<https://ecos.fws.gov/ipac/>).

Area to be Considered in Consultations: Under the new "Small Project Handle" policy, the Corps will consider direct and indirect effects to listed species and their Critical Habitats (if designated), as well as interrelated or interdependent actions associated with the project. The action area should include both jurisdictional waters and upland habitat on the site, as well as downstream impacts associated with project actions (e.g., increased stormwater runoff, sediment and contaminant movement from the site, bank erosion due to riparian removal).

EDGES Determinations and FWS-GA Concurrence: The Corps will determine if a project will "take" a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct, and "harm" is further defined to include significant habitat modification or degradation when it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. There are three "take" determinations the CORPS may make:

- **No Effect:** The project will not affect any federally-listed or proposed listed species. FWS-GA does not need to concur with a CORPS determination of No Effect.
- **May Affect, Not Likely to Adversely Affect (NLAA):** The project will have beneficial, insignificant, or discountable effect on listed species. Insignificant effects are undetectable, not measurable, or cannot be evaluated. Discountable effects are extremely unlikely to occur. NLAA determinations, under these EDGES, may not require written FWS-GA concurrence.
- **May Affect, Likely to Adversely Affect (MALAA):** "Take" is likely to occur. Formal consultation (135-day timeline) will be initiated if FWS-GA concurs with this determination – the applicant may qualify under existing programmatic biological opinions if the applicant meets specific requirements. Species with programmatic opinions are identified in the EDGES.

In addition to species determinations, the Corps must determine if a project will result in destruction or adverse modification of federally-designated Critical Habitat. Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of Critical Habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features. Critical Habitat on the project site will be identified in the IPaC printout.

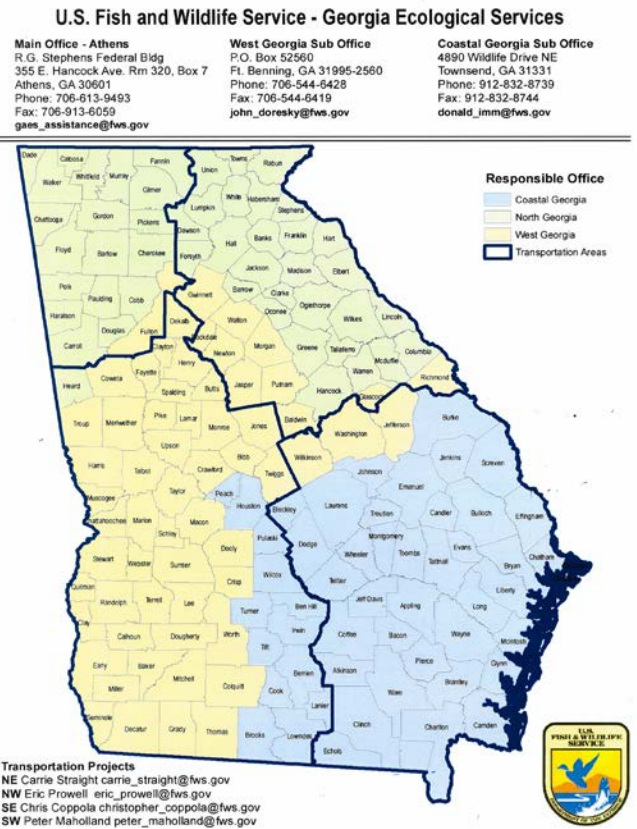
Applicant Responsibilities:

1. Use IPaC (<https://ecos.fws.gov/ipac/>) to determine which listed species and/or Critical Habitat may occur in the project area. IPaC polygons provide more accurate information than the more general IPaC county list function.
2. Determine which EDGES should be evaluated.
3. Compare conditions on the project site to the EDGES information describing each species' habitat requirements to evaluate if the species might occur on site. Evaluation of project impact for aquatic freshwater species should include reaches downstream, where increased stormwater runoff, sediment or contaminant discharge, during and after construction, may affect water and habitat quality.
4. If desired (but not required), expedite the ESA consultation process by either
 - a. Contacting FWS-GA early in the planning process to evaluate project impacts on listed species. Send a brief project description, coordinates and a USGS topographic map with the project footprint outlined (both may be obtained at <https://mapper.acme.com/>), photographs and a written description of habitat on site, anticipated date of tree clearing (if any), and conservation measures proposed to minimize impacts to listed species. FWS-GA will provide recommendations within 30 days, when fully staffed.
 - b. Having a qualified biologist conduct surveys on the site, at appropriate times of the year, for target species and submitting survey results to FWS-GA (30-day review, maximum, when fully staffed).
5. Fill out the Savannah District EDGES Applicant Coordination Slip (Page 4) and provide it, and supporting documentation (IPaC map and endangered species printout, and, if applicable, FWS-GA review comments and/or survey data, to the CORPS with your application/PCN.

CORPS/FWS-GA Responsibilities:

1. Review the applicant's information and evaluate potential impacts to the species and to Critical Habitat (if applicable) based on the EDGES key for each species.
2. If applicable, reach a determination on whether the project will adversely modify Critical Habitat.
3. For each listed species that may occur on site, reach a No Effect, NLAA, or MALAA determination.
4. If a determination cannot be reached for any species, based on information in the PCN, JPN, or other provided documents (or via conference with FWS-GA), request the applicant provide the additional information identified in the EDGES for more in-depth project evaluation.
5. Notify the lead FWS-GA office (see map) of NLAA determinations (via the weekly PCN spreadsheet, email, or snail mail). Where required by the EDGES, FWS-GA will either provide written concurrence (via email or snail mail) or recommend formal consultation be initiated.
6. For each species where a MALAA determination is reached, either
 - a. Determine if the project meets the requirements of an existing programmatic biological opinion (currently, only the Northern long-eared bat). Inform FWS-GA that project impacts are covered by the programmatic BO, via the weekly PCN spreadsheet, email, or snail mail. FWS-GA will review and (1) concur; (2) recommend modifications to bring the project in line with the programmatic; or (3) recommend individual consultation.
 - b. Request formal consultation with FWS-GA. FWS-GA will provide a draft biological opinion within 135 days for Corps review (assuming adequate staff).
7. Both the Corps and FWS-GA will monitor implementation of the biological opinion, as outlined in the small federal handle discussions.
8. Attempts to resolve disagreements about Corps determinations will first be at the field office level; final authority will be with Corps Regulatory Chief.

Table 1. The 12 CORPS/FWS-GA EDGES cover 41 listed species.



Alabama moccasinshell	Northwest Georgia Aquatic Species EDGES
Altamaha spinymussel	Altamaha Spinymussel EDGES
Amber darter	Northwest Georgia Aquatic Species EDGES
Black-spored quillwort	Georgia Granite Outcrop Plants EDGES
Blue shiner	Northwest Georgia Aquatic Species EDGES
Cherokee darter	Northwest Georgia Aquatic Species EDGES
Conasauga logperch	Northwest Georgia Aquatic Species EDGES
Coosa moccasinshell	Northwest Georgia Aquatic Species EDGES
Eastern indigo snake	Eastern Indigo Snake EDGES
Etowah darter	Northwest Georgia Aquatic Species EDGES
Fat threeridge	Southwest Georgia Aquatic Species EDGES
Fine-lined pocketbook	Northwest Georgia Aquatic Species EDGES
Frosted flatwoods salamander	Flatwoods Salamander EDGES
Georgia pigtoe	Northwest Georgia Aquatic Species EDGES
Goldline darter	Northwest Georgia Aquatic Species EDGES
Gray bat	North Georgia Bats EDGES
Green sea turtle	Sea Turtle EDGES
Gulf moccasinshell	Southwest Georgia Aquatic Species EDGES
Indiana bat	North Georgia Bats EDGES
Interrupted rocksnail	Northwest Georgia Aquatic Species EDGES
Kemp's ridley sea turtle	Sea Turtle EDGES
Leatherback sea turtle	Sea Turtle EDGES
Little amphianthus	Georgia Granite Outcrop Plants EDGES
Loggerhead sea turtle	Sea Turtle EDGES
Manatee	Manatee EDGES
Mat-forming quillwort	Georgia Granite Outcrop Plants EDGES
Northern long-eared bat	North Georgia Bats EDGES
Ochlockonee moccasinshell	Southwest Georgia Aquatic Species EDGES
Oval pigtoe	Southwest Georgia Aquatic Species EDGES
Piping plover	Shorebirds EDGES
Purple bankclimber	Southwest Georgia Aquatic Species EDGES
Red-cockaded woodpecker	Red-Cockaded Woodpecker EDGES
Red knot	Shorebirds EDGES
Reticulated flatwoods salamander	Flatwoods Salamander EDGES
Shinyrayed pocketbook	Southwest Georgia Aquatic Species EDGES
Snail darter	Northwest Georgia Aquatic Species EDGES
Southern clubshell	Northwest Georgia Aquatic Species EDGES
Southern pigtoe	Northwest Georgia Aquatic Species EDGES
Triangular kidneyshell	Northwest Georgia Aquatic Species EDGES
Trispot darter	Northwest Georgia Aquatic Species EDGES
Wood stork	Wood Stork EDGES

Table 2. The 25 listed plants for which a CORPS/FWS-GA EDGES has not been developed.

Alabama leather flower	Kral's water-plantain	Swamp pink
American chaffseed	Large-flowered skullcap	Tennessee yellow-eyed grass
Canby's dropwort	Michaux's sumac	Virginia spiraea
Cooley's meadowrue	Mohr's Barbara's buttons	White fringeless orchid
Florida torreyia	Persistent trillium	Whorled sunflower
Fringed campion	Pondberry	
Georgia rockcress	Relict trillium	
Green pitcher-plant	Rock gnome lichen	
Hairy rattlesweed	Small whorled pogonia	
Harperella	Smooth coneflower	

Savannah District EDGES Applicant Coordination Slip

Project: _____ County: _____ Coordinates: _____

Applicant: _____ Consultant: _____

FWS-GA Review of Project or Survey Data (yes/no): _____ Date of FWS-GA Review (if applicable): _____

Project Modifications After FWS-GA Review (including changes in timing): _____

Species IPaC Indicated May Occur on Site	Critical Habitat (yes/no)	Applicable EDGES	Species Habitat(s), as Described in the EDGES (e.g., wetland, stream, forested, flatwoods, sandhills)	Does this Habitat occur on Project Site (yes/no)	Will this Habitat be Altered by the Project (yes/no)

Please provide this form, the IPaC map and printout of listed species/Critical Habitat that may occur on site, and any FWS-GA comments on the project to the Savannah District with your application/PCN.

FWS-GA Suggested Best Management Practices to Reduce Project Impacts on Wildlife

Wetland, Riparian Buffer, Streambank, and Stream Channel Protection: Minimize disturbance to stream banks and riparian areas during project work. Do not operate equipment in the stream channel, and use temporary bridges to ford the channel during work. Maintain a 50-foot undisturbed buffer and an additional 25 ft. impervious setback on all streams, and locate staging areas, storage areas, borrow pits, or waste sites outside of these buffers. Restore the channel and banks, where possible, to original contours and stabilize banks with native vegetation and other biotechnical methods – avoid riprap or other hard armoring. Install perimeter controls (i.e. silt fence, or compost filter sock) on the upland side of the delineated wetland boundary with an established un-disturbed vegetated buffer for maximum protection of the wetland system. Check perimeter controls frequently to ensure they are operating correctly.

Water Quality Protection: All projects should comply with the Georgia Erosion and Sedimentation Act – projects adjacent to streams with listed aquatic species should exceed State standards. Equipment storage, equipment maintenance, supply storage, and use of pesticides, herbicides, and/or other chemicals not occur within the 100-year floodplain or 200 feet from the stream banks or wetland edge, whichever is greater. All storage and maintenance areas should be protected with secondary containment. Material utilized in, or adjacent to aquatic resources for temporary fill, permanent fill, or bank protection shall consist of suitable material, free from toxic contaminants in other than trace quantities. Materials such as used asphalt, pressure treated lumber and uncured concrete should not be used because it can alter water quality causing mortality in aquatic organisms and can be harmful to public health.

Stormwater: Post-construction stormwater management should be consistent with performance standards for Water Quality protection (WQv) and Channel Protection (CPv) found in the Georgia Stormwater Management Manual, otherwise known as the Blue Book (<https://atlantaregional.org/georgia-stormwater-management-manual/>). For projects that drain to streams or wetlands with Federal- or State- protected species, additional water quality protection should be provided through implementation of the Runoff Reduction performance standard, also found in the Blue Book.

Bridges and Culverts: Bridges and arch spans are the preferred option for stream crossings from an aquatic habitat continuity perspective. The number of instream piles or structures should be minimized, and they should be aligned with the natural stream flow. Use of bridge scuppers that directly discharge stormwater to streams should be minimized, except where necessary for safety. All work for bridge construction activities that require the use of temporary in-stream construction access (e.g., jetties, work bridges, barges, etc.) should be conducted in a manner that does not inhibit aquatic organism passage, including minimizing river constriction. A flow analysis to evaluate water velocity alterations should be conducted when river constriction will be greater than 25% of the cross sectional area of the critical flow, and a contingency plan should be developed in the event channel scour, bank erosion, or undesirable conditions occur. Upon completion of activities, temporary fills should be entirely removed and the site restored to pre-existing elevation. Equipment should not be stored on any in-stream structure to reduce equipment loss if flows exceed the height of the in-stream structure and reduce contamination from pollutant leakage during off-use times.

Culverts should be designed and installed in a way that ensures the structures do not become barriers to aquatic organism passage by significantly increasing water velocities in culverts at base flow, causing a drop in elevation at the outflow due to scour in and around the culvert, or reducing water depth in the culvert at base flows. The Savannah District's Regional Conditions for Nationwide Permits specify BMPs for culvert design to promote the safe passage of fish and other aquatic organisms

(<http://www.Corps.usace.army.mil/Portals/61/docs/regulatory/2017%20Regional%20Conditions.pdf?ver=2017-03-20-153050-080>).

Direct stormwater runoff from road approaches toward floodplains, letting the runoff discharge as sheet flow across the floodplain or into stormwater management structures. When road approaches are composed of unpaved surfaces, consider paving the road approaches to improve the water quality of stormwater runoff around stream crossing locations. If spread footers, containment structures, or other structures require the use of dry or poured concrete, flowable fill, or similar materials and are elected for use in the construction within any waterway, such methods shall

be constructed using cofferdams or similar containment structures. If uncured, dry or wet concrete will be used, the water used for curing shall not be allowed into the waterways. The use of uncured concrete in a waterway can raise the pH of the surrounding water causing mortality in aquatic organisms and potential public health concerns. Incorporate measures to provide reduce mortality of wildlife and increase human safety by providing wildlife crossings.

Utility Stream Crossings: Direct runoff via sheetflow to vegetated areas or stormwater treatment basins and utilize rolling dips or water bars to divert water from the utility right-of-way (ROW) into vegetated areas on slopes to minimize erosion. Install sediment pits, where necessary, to trap sediment until the ROW is stabilized. Directional boring is preferred when a utility line must be installed across a perennial stream that supports Federal- or State-protected aquatic species. Bore pits should be located as far away from the stream channel as possible. Dry open trench pipe installation using isolation crossing diversions, such as coffer dams, are preferred for all other perennial stream crossings. The diversions should not dewater downstream reaches or create excessive water velocity that could scour downstream reaches. Wet open trench construction should be avoided in all perennial streams unless no other method is feasible, or if it can be shown that alternative methods would cause greater sedimentation and environmental harm. For both wet and dry open trench installation, stream banks and channels should be restored to their original contours and the banks stabilized with native vegetation (except in areas where permanent road crossings are to be maintained). In-channel stream restoration techniques should be considered to stabilize the channel elevation and protect buried utility lines. In-channel restoration techniques can also effectively prevent downstream scour or upstream head cutting which can result from open trenching. Hydrotest waters should not be pulled from or discharged into streams with Federal- or State-listed aquatic species

Wet open trench installation should not be conducted during the sensitive reproductive periods of Federal- or State-listed aquatic species, when eggs and newly-hatched larvae are most likely to be buried or harmed by increased turbidity and sedimentation. Only directional boring or isolation crossing methods should be used during these times of year.

Aerial utilities should maintain a 100-foot undisturbed riparian buffer within the powerline's ROW on both sides of all streams with Federal- or State-listed aquatic species. No crossings, either temporary or permanent, via culverts, fords, or other methods should be constructed and all access roads should end at the buffer's edge farthest from the streambank. The buffer, where possible, should be retained in or planted with native vegetation of at least shrub size. Maintain a 50-foot riparian buffer within the powerline's ROW on both sides of other perennial and intermittent streams that will be crossed. Some vegetation within these buffer zones may be temporarily disturbed if culverts, fords, or other stream crossings are necessary, but streambanks should be restored to normal contours and stabilized after the crossing is removed.

Existing Bridges, Culverts, and Structures: Bridges, culverts, and structures (barns, buildings, etc.) can be used by migratory birds for nesting and roosting and by sensitive bat species for roosting and rearing young. Please complete inspections of all bridges, culverts, and structures to determine if there is evidence of migratory bird or bats use. Please fill out a bridge / culvert inspection form and include it with any coordination with our office. Please include indications of bat presence (guano and staining) even if bats are not present at the time of the inspection. If bridge work is scheduled for the inclusive dates of 1 April through October 15, an additional bridge inspection for evidence of bats is requested within 14 days of any activity that might disturb migratory birds or roosting bats.