ENVIRONMENTAL, INC.
96B Cogswell Avenue, Pell City, Alabama 35125
Environmental, Remediation, and Ecological Consultants

December 12, 2023

Mr. Darren Hamrick
Sain Associates
Two Perimeter Park South, Suite 500
Birmingham, Alabama 35243

Subject:
Threatened and Endangered Species Assessment
Whitehouse Road Property
Jasper, Walker County, Alabama
Environmental, Inc. Project No.: SAI01E2307

Dear Mr. Hamrick:

Environmental, Inc. performed a Threatened and Endangered Species Assessment for species listed by the U.S. Fish and Wildlife Service (USFWS) as occurring or potentially occurring within the project area in Jasper, Walker County, Alabama.

The site project area is located off of Whitehouse Road approximately 1.75 miles northwest of the intersection of I-22 and Industrial Parkway in Jasper, Walker County, Alabama (Figure 1). The project area is depicted on the United States Geological Survey 7.5-minute Topographic Quadrangle "Jasper, Alabama," dated 1981, in Sections 15 and 22, Township 14 South, Range 7 West. More specifically, the project area is centered at latitude 33.81823° north and longitude 87.25817° west (Figure 2). The project area is located in the Town Creek-Cane Creek drainage basin of the Mulberry watershed (HUC 03160109).

The project area is located within the Shale Hills ecoregion. This ecoregion is sometimes called the Warrior Coal Field and has more shale and less sandstone than the Dissected Plateau ecoregion. The soils generally have silt loam surfaces rather than sandy loams and have a silty clay or clayey subsoil. Although it has the lowest elevations in the Southwestern Appalachians ecoregion, the surface features are characterized by extensive hills and mostly strongly sloping topography. The shale, siltstone, and sandstone are relatively impermeable, and streams do not have the base flow found in more permeable adjacent areas, such as the Fall Line Hills ecoregion or the Southern Limestone/Dolomite Valleys and Low Rolling Hills ecoregion. The region is mostly forested, but coal mining is a major industry, and the extensive open-pit mines have altered the landscape, soils, and streams.

Environmental, Inc. reviewed the following list of species provided by the United States Fish & Wildlife Service's (USFWS) IPaC (Information for Planning and Consulting) resource list (Appendix B) as occurring or potentially occurring within the project area in Jasper, Walker County, AL:

<u>Mammals</u>

- Indiana bat, *Myotis sodalis* – Endangered
- Northern Long-Eared Bat, *Myotis septentrionalis* – Endangered
- Tricolored Bat, *Perimyotis subflavus* – Proposed Endangered

Birds

- Whooping crane, *Grus americana* – Experimental population, Non-essential

Reptiles

- Alligator snapping turtle, *Macrochelys temminckii* – Proposed Threatened
- Flattened musk turtle, *Sternotherus depressus* – Threatened

Amphibians

- Black Warrior (=Sipsey Fork) waterdog, *Necturus alabamensis* – Endangered

Clams

- Orangenacre mucket, *Hamiota perovalis* – Threatened

Insects

- Monarch butterfly, *Danaus plexippus* – Candidate

Flowering Plants

- Mohr's Barbara's buttons, *Marshallia mohrii* – Threatened
- White fringeless orchid, *Platanthera integrilabia* – Threatened

LITERATURE REVIEW

Environmental, Inc. reviewed multiple sources regarding species identification, life history, and habitat requirements for each of the target species. Literature resources include USFWS Recovery Plans, and USFWS determinations of Critical Habitat.

Mammals:

Indiana bat (*Myotis sodalis*) is a migratory bat that hibernates in caves and mines in the winter. In the spring the females migrate and form maternity colonies in wooded areas. Summer roosting habitat is identified as trees or snags ≥ 5 inches DBH that have exfoliating bark, cracks, crevices, and/or hollows. Additional summer habitat includes fencerows, emergent wetlands adjacent to old agriculture fields, old fields and pastures, riparian forests, and wooded corridors.

Northern long-eared bat (*Myotis septentrionalis*) is a medium-sized species from 3 to 3.7 inches in length with a 9 to 10-inch wingspan. This species is identified from other bats within the genus by its long ears. Winter habitat includes underground caves and cave-like structures that typically have large passages with significant cracks and crevices for roosting. The habitat has relatively constant, cool temperatures of 0-9°C, with high humidity and minimal air currents. Hibernation is typically between mid-fall to mid-spring. Summer roosting habitat includes cavities, underneath bark, crevices, or hollows of live and dead trees or snags with a diameter at breast height (DBH) of ≥ 3 inches. They also may roost in cooler places such as mines or caves. The species has occasionally been located roosting in barns and sheds. Additional summer habitat includes a wide variety of forested/wooded habitats that may include adjacent edges of agricultural fields, emergent wetlands, old fields

and pastures, linear features such as fencerows, riparian forest, and wooded corridors. The bats may inhabit the summer habitat from mid-May through mid-August each year.

Tricolored bats (*Perimyotis subflavus*) are small, predominantly solitary bats that use caves, mines, and rock crevices as hibernation sites in the winter and occasionally as night roosts in summer. During summer the tricolored bat primarily roosts in the leaves of hardwood trees but can be found roosting in Spanish moss, pine trees, or man-made structures. The tricolored bat is a weak flier and its flight is erratic and foraging area small. It is insectivorous and often forages over waterways and forest edges.

Birds:

Whooping cranes (*Grus americana*) are North America's tallest bird species. This species has a long neck and legs with adult plumage being predominantly snowy white except for black primary wing feathers and a crimson-colored crown. Adult whooping cranes are approximately five feet tall when standing erect and exhibit a wingspan seven feet wide or greater. This crane species has one naturally occurring population remaining which migrates between the Texas coast and Alberta, Canada. One migrating experimental population was established between Wisconsin and Florida and these birds can occur anywhere in between during migration, including Alabama. Additionally, two non-migrating experimental populations were established in Florida and Louisiana. Whooping cranes can be found in a variety of habitats including coastal and inland marshes, estuaries, tidal flats, shallow bays, lakes, open ponds, upland swales, wet meadows, rivers, pastures, and agricultural fields.

Reptiles:

Alligator snapping turtles (*Macrochelys temminckii)* are the largest freshwater turtles in North America with males reaching lengths of 29 inches and 250 pounds. This snapping turtle has a large triangular shaped head, long tail, and rough brown shell with three keels along the carapace oriented from head to tail. This species is native in bodies of water from Florida to Texas and north to Illinois. Alligator snapping turtles are generally found in deeper water of large rivers and their major tributaries but they can also be found in a wide variety of habitats including small streams, bayous, canals, swamps, lakes, reservoirs, ponds, and oxbows. They are more often found near structure (tree root masses, stumps, submerged trees, etc.) than open water. This species is omnivorous, feeding on fish, crayfish, mollusks, insects, snakes, birds, smaller turtles, and vegetation (including acorns). They nest in areas with some canopy cover close to water.

Flattened musk turtle (*Sternotherus depressus*) is a small aquatic turtle having a distinctly flattened carapace up to 4.7 inches long, with keels virtually, if not altogether, lacking. The carapace varies from very dark brown to orange with dark bordered seams and is slightly serrated behind. The plastron is pink to yellowish. The head is greenish with a dark reticulum that often breaks up to form spots on the top of the snout. Stripes on the top and sides of the neck, if present, are narrow. There are two barbels on the chin, all four feet are webbed, and males have thick, long, spine-tipped tails. The flattened musk turtle is found only within the Sipsey (HUC 03160107), Mulberry (HUC 03160110), Locust (HUC 03160111), and Upper Black Warrior (HUC 03160112) watersheds. Suitable habitat for flattened musk turtles consists of large creeks to small rivers with vegetated shallows alternating with deeper pools exhibiting some current and an abundance of rock crevices. Within

impounded systems, the headwaters and areas of the lake margins with an abundance of rock shelves provide suitable habitat. Other indicators of suitable habitat include abundant snail and mussel populations, low silt deposits, and minimal pollution.

Amphibians:

Black Warrior (=Sipsey Fork) waterdogs (*Necturus alabamensis*) are large, aquatic, nocturnal salamanders that permanently retain a larval form and external gills throughout their life. The Black Warrior waterdog inhabits medium to large streams above the Fall Line (the contact between the coastal plain and the adjacent upland provinces) within the Black Warrior River Basin in Alabama. This includes parts of the North River, Locust Fork, Mulberry Fork, and Sipsey Fork drainages and their tributaries. Suitable in-stream habitat for Black Warrior waterdogs consists of clay or bedrock with little sand and an abundance of rock crevices and rock slabs.

Clams:

Orangenacre muckets (*Hamiota perovalis*) historically inhabited the Alabama River and its tributaries; tributary rivers and streams of the Tombigbee and Black Warrior Rivers; and the Cahaba River and its tributaries. Orangenacre muckets prefer medium streams to large rivers on stable sand/gravel/cobble substrate in moderate to swift currents.

Insects:

Monarch butterfly (*Danaus plexippus*) is a large and conspicuous butterfly with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. Adult monarchs are sexually dimorphic, with males having narrower wing venation and scent patches. The bright coloring of a monarch serves as a warning to predators that eating them can be toxic. During the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.), and larvae emerge after two to five days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. There are multiple generations of monarchs produced during the breeding season, with most adult butterflies living approximately two to five weeks; overwintering adults enter into reproductive diapause (suspended reproduction) and live six to nine months. In many regions where monarchs are present, monarchs breed year-round. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period of time. In the fall, in both eastern and western North America, monarchs begin migrating to their respective overwintering sites. This migration can take monarchs distances of over 3,000 km and last for over two months. In early spring (February-March), surviving monarchs break diapause and mate at the overwintering sites before dispersing. The same individuals that undertook the initial southward migration begin flying back through the breeding grounds and their offspring start the cycle of generational migration over again.

Flowering Plants:

Mohr's Barbara's button (*Marshallia mohrii*) is an erect perennial herb, 1 to 2.3 feet in height, with lanceolate–ovate alternate leaves in the sunflower family (Asteraceae). In Alabama, the species is primarily known from two areas in eastern Etowah County and central Cherokee County, with one population occurring in Bibb County. The species typically occurs in moist, prairie–like openings in woodlands, along shale–bedded streams, or in Ketona dolomite glades. Soils are alkaline sandy–clays, high in organic matter, and are seasonally wet.

White fringeless orchid (*Platanthera integrilabia*) is a perennial orchid that arises from fleshy roots and grows in colonies with many sterile stems or leaves. The species blooms in late July to early September and the fruits mature in October. The species is distinguishable from other *Platanthera* species by the presence of a fringeless, serrated, lower lip and white flowers. It is classified as obligate and is generally found in wetlands, bogs in acidic muck or sand, and seepage slopes, predominantly in partially shaded areas. Populations are usually found growing in soils that are predominantly formed over sandstone bedrock, usually low in fertility and organic matter content, and acidic. Common associated vegetation includes red maple (*Acer rubrum*), blackgum (*Nyssa sylvatica*), primrose-leaved violet (*Viola primulifolia*), small green wood orchid (*Platanthera clavellata*), cowbane (*Oxypolis rigidior*), grass of Parnassus (*Parnassia asarifolia*), peat moss (*Sphagnum* spp.), cinnamon fern (*Osmunda cinnamonea*), netted chain fern (*Woodwardia areolata*), and the New York fern (*Thelyptris novaboracensi*).

FIELD EVALUATION

Environmental, Inc. (EEI) personnel reviewed the USGS 7.5-minute "Jasper, Alabama" Topographic quadrangle, the National Wetlands Inventory Map (Figure 3), the USDA Web Soil Survey (Figure 4), and a recent aerial photograph (Figure 5) for the site. EEI personnel investigated the project area in November and December of 2023 for the presence of suitable habitat of the listed species.

The project area consists of approximately 95 acres of open and forested land. Topography within the project area slopes moderately downward toward the northwest and southwest with a relatively level plateau on the eastern portion. The project area contains seven ephemeral streams, two intermittent streams, and one small wetland.

Dominant canopy species consist of loblolly pine (*Pinus taeda*), white oak (*Quercus alba*), scarlet oak (*Quercus coccinea*), water oak (*Quercus nigra*), willow oak (*Quercus phellos*), red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), black willow (*Salix nigra*), pignut hickory (*Carya glabra*), mockernut hickory (*Carya tomentosa*), winged elm (*Ulmus alata*), and Eastern red cedar (*Juniperus virginiana*).

The mid-story is comprised of loblolly pine, sweetgum, Chinese privet (*Ligustrum sinense*), deerberry (*Vaccinium stamineum*), and oak species (*Quercus* spp.). Woody vines within the project area consist of muscadine (*Muscadinia rotundifolia*), poison ivy (*Toxicodendron radicans*), Japanese honeysuckle (*Lonicera japonica*), and roundleaf greenbrier (*Smilax rotundifolia*).

Groundcover within the site predominantly consists of goldenrod (*Solidago* spp.), dogfennel (*Eupatorium capillifolium*), dewberry (*Rubus pensilvanicus*), poison ivy, Japanese honeysuckle, broomsedge (*Andropogon virginicus*), giant cane (*Arundinaria gigantea*), longleaf woodoats (*Chasmanthium sessiliflorum*), and Christmas fern (*Polystichum acrostichoides*). Site Photographs are attached as Appendix A.

According to the United States Department of Agriculture's (USDA) Web Soil Survey Internet website, project area soils are classified as: Nauvoo and Sipsey soils, 6 to 12 percent slopes; Sunlight-Townley complex, 15 to 45 percent slopes; and Townley silt loam, 6 to 15 percent slopes.

CONCLUSIONS

Mammals:

There are no caves, mines, or karst features located on the property that provide suitable winter roosting habitat for Indiana bats, Northern long-eared bats, or tricolored bats.

Pine and hardwood species greater than 3-inches diameter at breast height (dbh) with scaling and sloughing bark potentially provide suitable summer roosting habitat for Indiana bats and Northern long-eared bats. The project area contains mature loblolly pines and white oaks which contain scaling and sloughing bark. Standing dead trees that are decayed and exhibit cracks, crevices, and hollows within the project area also provide summer roosting habitat for Indiana bats and Northern long-eared bats. In accordance with the Range–Wide Indiana Bat Summer Survey Guidelines, January 2014, and the Northern Long-Eared Bat Interim Conference and Planning Guidance, January 6, 2016, tree removal activities of suitable summer roosting habitat for the Indiana bat and Northern long-eared bat should occur after October 15th and before March 31st.

The hardwood trees within the project area provide suitable summer roosting habitat for tricolored bats. The open portions of the project area provide suitable foraging habitat for all listed bat species.

Birds:

Suitable habitat is absent within the project area for whooping cranes. The project area is not near a known nesting site for whooping cranes and the forested and open land does not provide suitable foraging habitat.

Reptiles:

Suitable habitat is absent within the project area for the listed reptile species. The ephemeral and intermittent streams on the project area do not provide appropriate habitat or flow regimes to support these species.

Amphibians:

Suitable habitat does not exist within the project area for Black Warrior (=Sipsey Fork) waterdogs. The ephemeral and intermittent streams on the project area do not provide appropriate habitat or flow regimes to support this species.

Clams:

Suitable habitat does not exist within the project area for orangenacre muckets. The ephemeral and intermittent streams on the project area do not provide appropriate habitat or flow regimes to support this species.

Insects:

The project area is not located within the identified overwintering zone for the monarch butterfly and their presence is not likely during the winter months. Foraging habitat is absent within the project area for larval monarch butterflies. No milkweed plants (*Asclepias* spp.) were observed within the project area during the time of the assessment.

Flowering Plants:

Suitable habitat is absent within the project area for Mohr's Barbara's button. An evaluation of soils within the project area concluded that all soils are listed as moderately to very strongly acidic. Furthermore, there are no Ketona dolomite glades located within the project area that would provide suitable habitat for the Mohr's Barbara's button.

Suitable habitat is absent within the project area for the white fringeless orchid. Soils within the small wetland located in the project area are not sandy muck nor does the wetland contain any of the commonly associated species.

Environmental, Inc. appreciates the opportunity to provide this information. Please reference the Environmental, Inc. project number (SAI01E2307) in correspondence regarding this site. Thank you for allowing us to assist you with this project. Please call us at (205) 629-3868 if you have any questions or comments.

Sincerely,

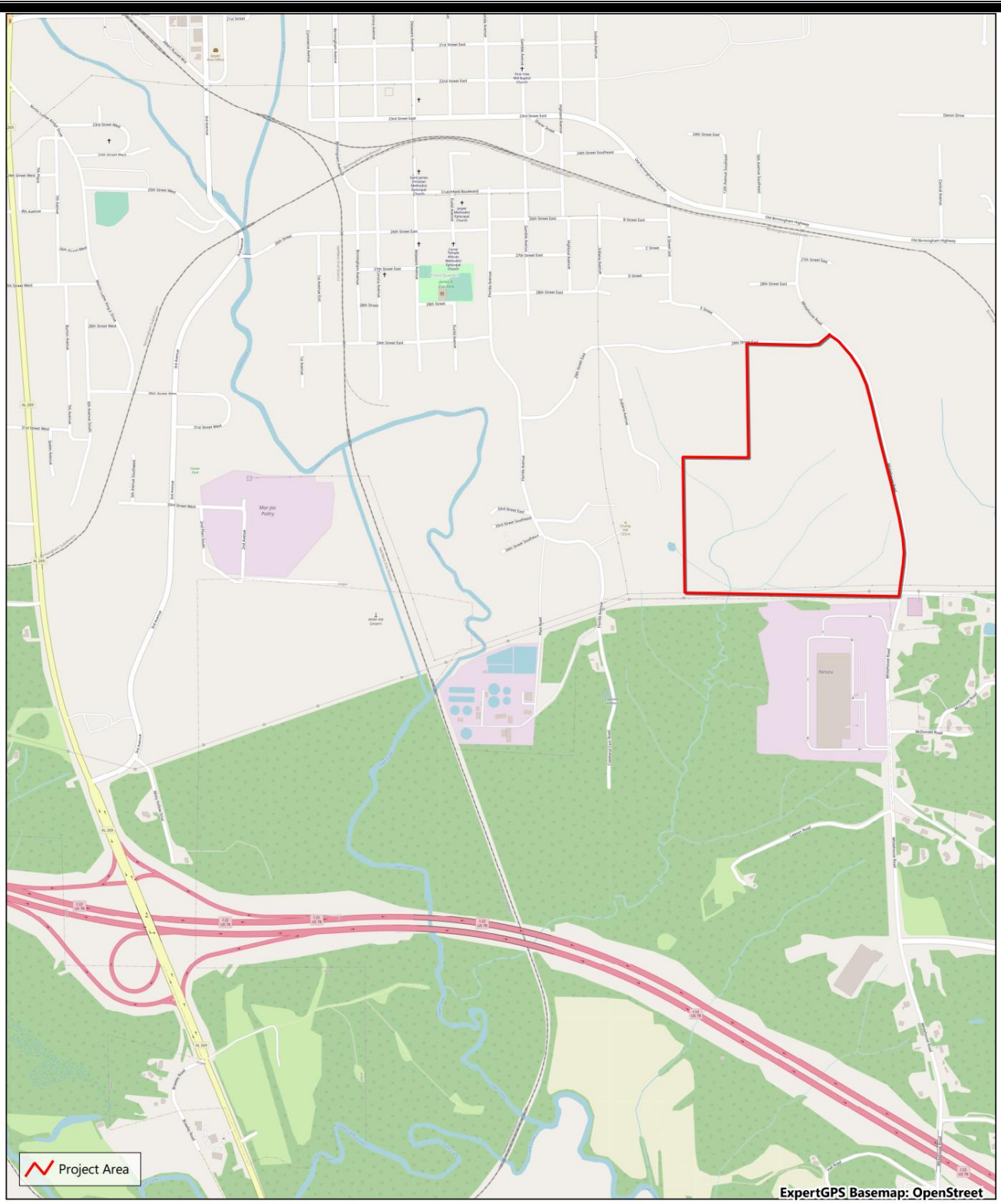
ENVIRONMENTAL, INC.

Kyle Paris
Senior Project Biologist

Chad Stinnett
Principal Scientist

Attachments

Figures



ExpertGPS

500 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 ft

Scale: 1 : 15000.

MN

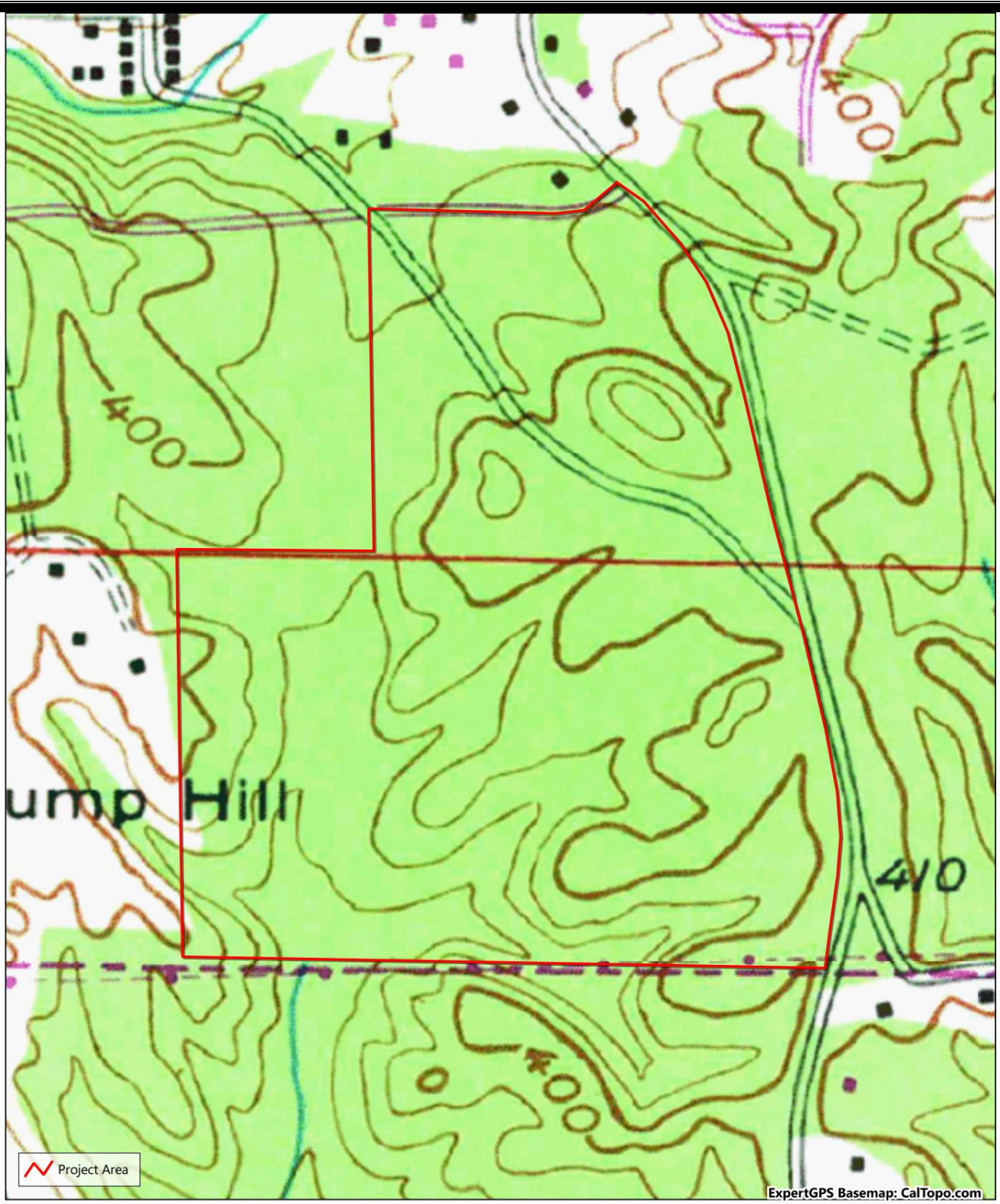
3°34'

Environmental, Inc.

Subject:
Whitehouse Road Project
Jasper, Walker County, Alabama
Environmental, Inc. Project No.: SAI01E2307

Figure 1

Location Map



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Scale: 1 : 5000.

MN

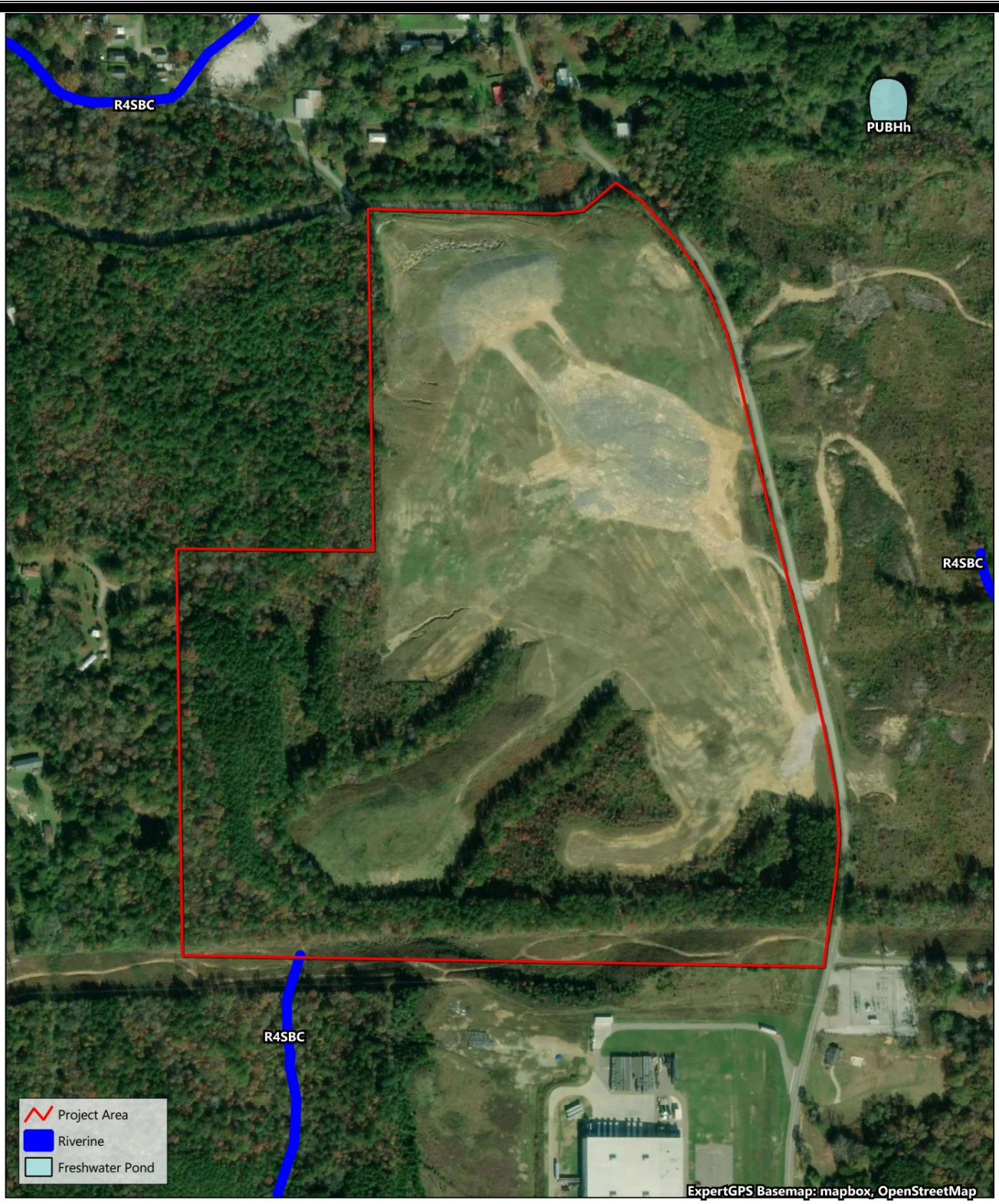
3°34'

Environmental, Inc.

Subject:
Whitehouse Road Project
Jasper, Walker County, Alabama
Environmental, Inc. Project No.: SAI01E2307

Figure 2

Topographic Map



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MN

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Environmental, Inc.

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Jasper, Walker County, Alabama
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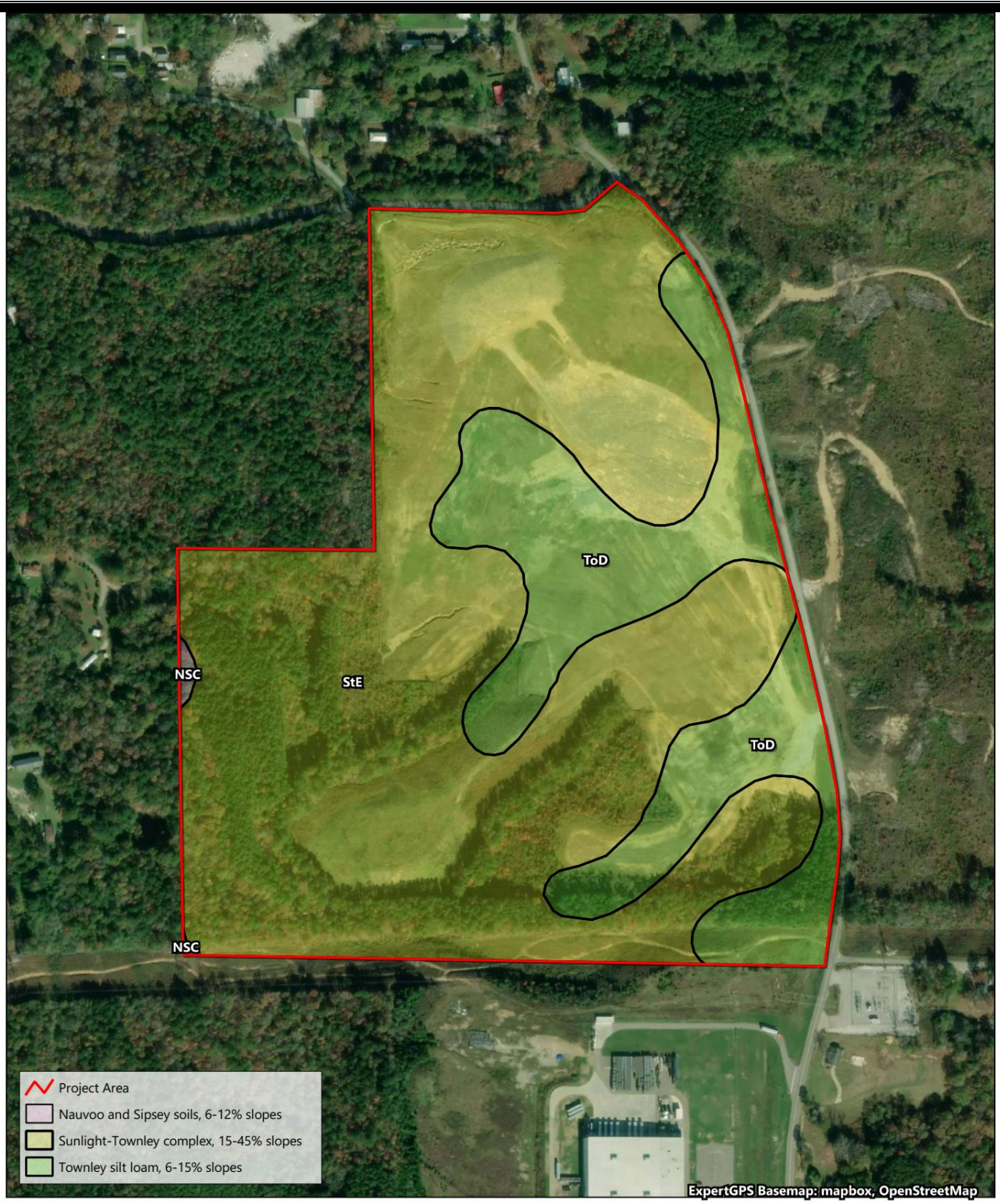
Figure 3

National Wetlands Inventory



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Scale: 1 : 5000.

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Jasper, Walker County, Alabama
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Figure 4

Soil Survey

ExpertGPS

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Scale: 1 : 5000.

MN

3°34'

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Environmental, Inc. Project No.: SAI01E2307

Figure 5

Aerial Photograph

Appendix A

Representative views of the open portions of the site.

Representative views of the forested portions of the site.

Representative views of canopy trees (suitable bat habitat) within the site.

Appendix B

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Walker County, Alabama

Local office

Alabama Ecological Services Field Office

(251) 441-5181
(251) 441-6222
alabama@fws.gov

1208 B Main Street
Daphne, AL 36526-4419

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Reptiles

NAME	STATUS
Alligator Snapping Turtle Macrochelys temminckii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4658	Proposed Threatened
Flattened Musk Turtle Sternotherus depressus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6961	Threatened

Amphibians

NAME	STATUS
Black Warrior (=sipsey Fork) Waterdog Necturus alabamensis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5426	Endangered

Clams

NAME	STATUS
Orangenacre Mucket Hamiota perovalis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1980	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Mohr's Barbara's Buttons Marshallia mohrii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7610	Threatened
White Fringeless Orchid Platanthera integrilabia No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1889	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON

Bald Eagle Haliaeetus leucocephalus — Breeds Sep 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

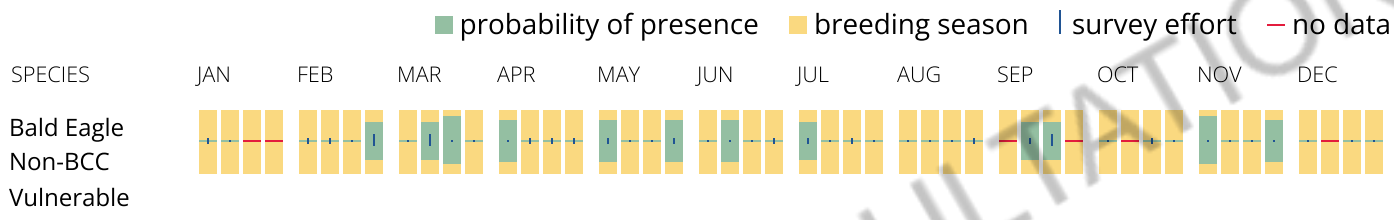
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Aug 31
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

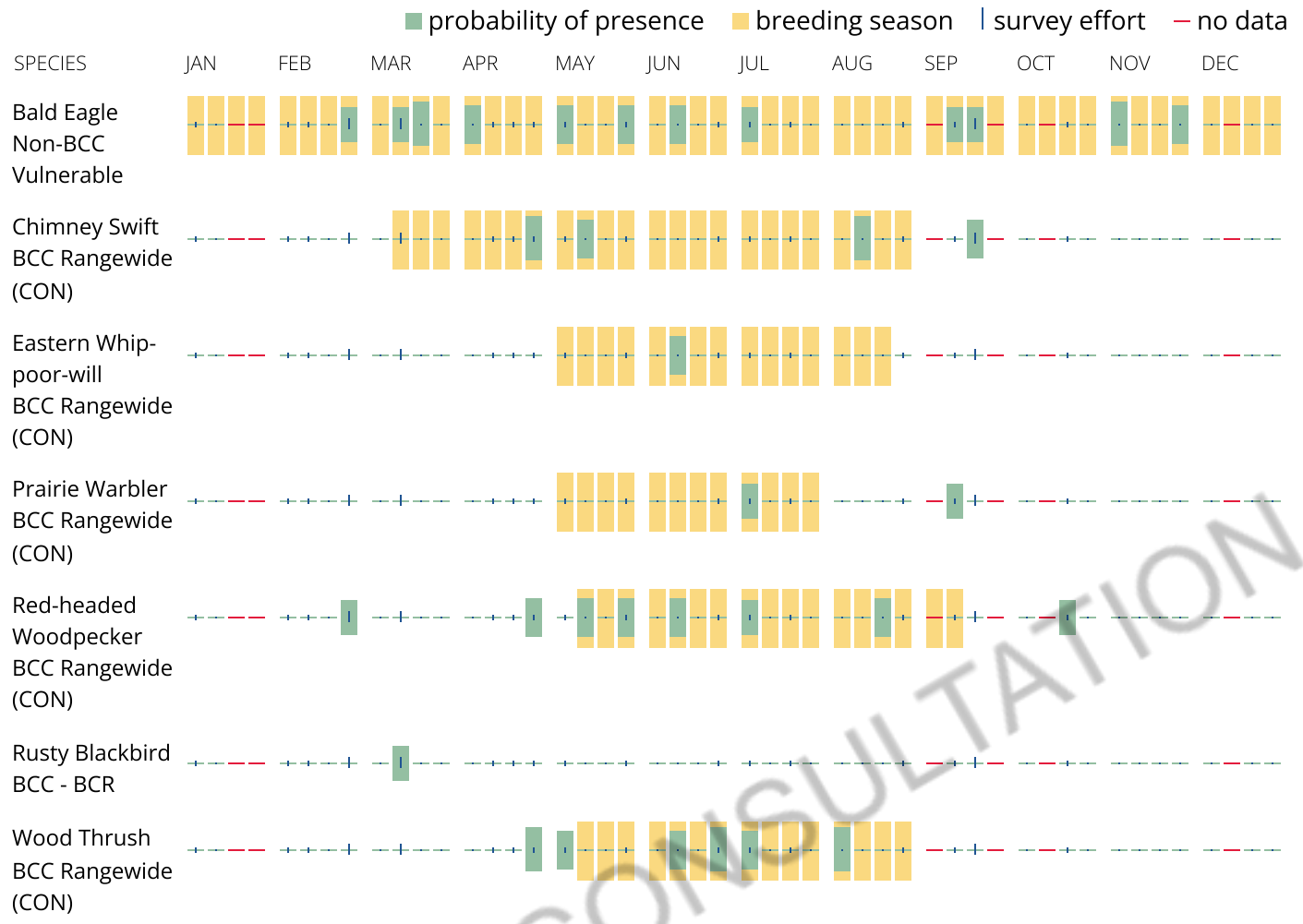
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

CBRA information is not available at this time

This can happen when the CBRS map service is unavailable, or for very large projects that intersect many coastal areas. Try again, or visit the CBRS map to view coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or

products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.