

August 28, 2023

U.S. Fish and Wildlife Service
Cindy Schulz – Field Supervisor
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Threatened and Endangered Species Habitat Assessment - Review Request Letter
High Bridge Solar, LLC
Colliers Engineering & Design Project No. 23006216A

Dear Ms. Schulz,

High Bridge Solar, LLC is requesting comment from the U.S. Fish Wildlife Service (USFWS) of the attached Threatened and Endangered Species Habitat Assessment prepared for the High Bridge Solar, LLC Project. The High Bridge Solar, LLC Project is located at the terminus of Hylawn Avenue in Farmville, Virginia within Prince Edward County (herein after referred to as "Subject Property"). The Subject Property is comprised of one (1) parcel of land that is further described as Prince Edward County Parcel Information Number (PIN):024-A-6. The Subject Property is approximately 140-acres in size and located at latitudinal coordinates 37.301770 N and longitudinal coordinates- 78.373710 W. The Subject Property is located approximately 1-mile east of Farmville, Virginia and 12-miles northwest of Burkeville, Virginia. The Subject Property is being considered for solar farm development.

Based on the NHP database, there are no documented occurrences of Northern Long-eared bat or Tricolored bat on the Subject Property or within a 1-mile radius. Based on are view of the Proposed Site Plan (Sheet G-101) for the High Bridge Solar, LLC Project, the proposed solar farm development does impact the undeveloped forested areas. Therefore, based on the fact that there is not a known maternity roost or hibernacula within the Subject Property, it is believed that a biological finding of any future project is "May Affect, Not Likely to Adversely Affect" for the Northern Long-eared bat and the Tricolored bat. It should be noted that the Monarch Butterfly (*Danaus plexippus*), is also listed for the Subject Property; however, it is a Candidate species and is not afforded any specific legal protection at this time.

Attached for your review is the Threatened and Endangered Species Habitat Assessment prepared for the High Bridge Solar, LLC Project. At this time, we are requesting comment from the USFWS regarding the project. If you should have any comments, questions, or concerns; please feel free to contact me at sean.stanton@collierseng.com or at 984.312.5647.

Sincerely,



Sean Stanton
Natural Resources Scientist

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Threatened and Endangered Species Habitat Assessment

High Bridge Solar, LLC

Colliers Engineering & Design Project Number: 23006216A

August 7, 2023

Prepared for:

High Bridge Solar, LLC
19890 State Line Road
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Prepared by:

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EXECUTIVE SUMMARY

On behalf of High Bridge Solar, LLC, Colliers Engineering & Design, Inc. (DBA Maser Consulting) (CED) conducted a Threatened and Endangered Species Habitat Assessment for the High Bridge Solar, LLC located at the terminus of Hylawn Avenue in Farmville, Virginia within Prince Edward County (hereinafter referred to as “Subject Property”). The Subject Property is comprised of one (1) parcel of land that is further described as Prince Edward County Parcel Information Number (PIN): 024-A-6. The Subject Property is approximately 140 acres in size and located at latitudinal coordinates 37.301770 N and longitudinal coordinates -78.373710 W. The Subject Property is located approximately 1-mile east of Farmville, Virginia and 12-miles northwest of Burkeville, Virginia. The Subject Property is being considered for solar farm development.

A review of publicly available resources was performed to determine the potential habitat of federally protected threatened and endangered species, and if present, the extent of these areas within the Subject Property. In addition, CED conducted field habitat assessments on July 19, 2023 by walking transects on the Subject Property. The objective of the field assessment was to determine the presence of suitable habitat for federally protected species within the Subject Property. CED evaluated, documented, and took pictures of the vegetative community assemblages during field investigations. Species specific presence/absence surveys, migratory bird pre-clearing nest surveys, protection and mitigation measures, or biological findings for threatened and endangered species were not conducted for the following species: Northern Long-eared bat (*Myotis septentrionalis*) and Tricolored bat (*Perimyotis subflavus*).

Based on the NHP database, there are no documented occurrences of Northern Long-eared bat or Tricolored bat on the Subject Property or within a 1-mile radius. Based on a review of the Proposed Site Plan (Sheet G-101) for the High Bridge Solar, LLC project ([Appendix D](#)), the proposed solar farm development does impact the undeveloped forested areas. **Therefore, based on the fact that there is not a known maternity roost or hibernacula within the Subject Property, it is believed that a biological finding of any future project is “May Affect, Not Likely to Adversely Affect” for the Northern Long-eared bat and the Tricolored bat.** It should be noted that the Monarch Butterfly (*Dana plexippus*), is also listed for the Subject Property; however, it is a Candidate species and is not afforded any specific legal protection at this time.

1.0 PROJECT DESCRIPTION

On behalf of High Bridge Solar, LLC, Colliers Engineering & Design, Inc. (DBA Maser Consulting) (CED) conducted a Threatened and Endangered Species Habitat Assessment for the High Bridge Solar, LLC project located at the terminus of Hylawn Avenue in Farmville, Virginia within Prince Edward County (hereinafter referred to as “Subject Property”). The Subject Property is comprised of one (1) parcel of land that is further described as Prince Edward County Parcel Information Number (PIN):024-A-6. The Subject Property is approximately 140 acres in size and located at latitudinal coordinates 37.301770 N and longitudinal coordinates -78.373710 W. The Subject Property is located approximately approximately 1-mile east of Farmville, Virginia and 12-miles northwest of Burkeville, Virginia. The Subject Property is being considered for solar farm development.

2.0 SUBJECT PROPERTY DESCRIPTION

The Subject Property consists of primarily forest, trails, and a utility line easement. The Subject Property is bordered by agricultural, forested, and residential land uses.

The Subject Property contains three (3) major habitat community types: Maintained/Disturbed Areas, Dry-Mesic Oak-Hickory Forest Areas, and Wetland Areas. The Maintained/Disturbed Areas have had past, intermittent, and/or regular maintenance activities and are further described in [Section 4.2.1](#). The Dry-Mesic Oak-Hickory Forest Areas are considered non-wetland forested areas and are further described in [Section 4.2.2](#). There are Wetland Areas within the Subject Property that can be described as Headwater Wetlands and Bottomland Forested Wetlands and are discussed in [Section 4.2.3](#).

3.0 THREATENED AND ENDANGERED SPECIES HABITAT ASSESSMENT METHODS

Prior to on-site field investigations, a review of publicly available resources was performed prior to the onsite field investigation to determine the potential habitat of federally protected threatened and endangered species, and if present, the extent of these areas within the Subject Property. These mapping resources generally included, but were not limited to, the United States Geological Survey (USGS) maps, the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) soils database, National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) database, the USFWS Information, Planning, and Conservation System (IPaC), Virginia Department of Game and Inland Fisheries (VDGIF) Virginia Fish and Wildlife Information Service web-based application, Virginia Department of Conservation and Recreation - Natural Heritage Program (NHP) database, Virginia Coastal Management Program (VCMP) Coastal GEMS mapping tool, Center for Conservation Biology (CCB) mapping tool, and the Virginia Wildlife Environmental Review Map Service (WERMS) mapping tool. The information was gathered to determine the potential occurrence of federally protected species and evaluate potential vegetative community assemblages within the Subject Property through on-site field investigations. Species specific presence/absence surveys, migratory bird pre-clearing nest surveys, protection and mitigation measures, or biological findings for threatened and endangered species were not conducted.

3.1 U.S. GEOLOGICAL SURVEY MAP

The Subject Property appears on the Farmville and Rice, Virginia Quadrangles USGS Maps (Figure 1. Project Location Map, [Appendix A](#)). The Appomattox River is located along the northern property boundary, while the majority of the Subject Property is located on the northeast side of Hylawn Avenue. The USGS depicts within the southern section a stream feature. Structures and a driveway feature are located near the southwestern property boundary near Cedar Avenue. A power line easement corridor runs through the middle of the property from northwestern boundary to the southeastern boundary. Elevations at the Subject Property range from 300 to 400 feet above mean sea level (MSL) based on the USGS map.

3.2 SOIL SURVEY

The NRCS Web Soil Survey depicts the following eight (8) soil map units within the Subject Property and provides a description of the properties and qualities of each soil within Table 1, below. Of the eight (8) soil map units, the following three (3) mapped soil units are listed as being hydric: Buncombe loamy fine sand (Be), Wehadkee silt loam (Wc), and Worsham sandy loam (Wo). Hydric soils are soils that are most likely to contain wetlands primarily due to the shallow seasonal highwater table.

TABLE 1. SOIL SURVEY

Soil Name	Map Symbol	Depth to Restrictive Layer	Depth to Water Table	Drainage Class	Runoff	Hydric Soil (Yes/No)
Buncombe loamy fine sand	Be	More than 80 inches	More than 80 inches	Excessively Drained	Negligible	Yes
Louisa fine sandy loam, eroded rolling phase	Lh	4 to 20 inches to paralithic bedrock	More than 80 inches	Somewhat Excessively Drained	Very high	No
Wehadkee silt loam	Wc	More than 80 inches	About 0 to 12 inches	Poorly Drained	Negligible	Yes
Wilkes sandy loam, eroded hilly phase	Wf	10 to 20 inches to paralithic bedrock	More than 80 inches	Well Drained	Very high	No
Wilkes sandy loam, eroded rolling phase	Wg	10 to 20 inches to paralithic bedrock	More than 80 inches	Well Drained	Very high	No
Wilkes sandy loam, eroded steep phase	Wh	10 to 20 inches to paralithic bedrock	More than 80 inches	Well Drained	Very high	No

Soil Name	Map Symbol	Depth to Restrictive Layer	Depth to Water Table	Drainage Class	Runoff	Hydric Soil (Yes/No)
Wilkes sandy loam, undulating phase	Wn	10 to 20 inches to paralithic bedrock	More than 80 inches	Well Drained	Very high	No
Worsham sandy loam	Wo	More than 80 inches	About 0 to 12 inches	Poorly Drained	Very high	Yes

3.3 NATIONAL WETLAND INVENTORY AND FLOODPLAIN MAPS

The Subject Property is in the Appomattox River Basin (8 Digit HUC: 02080207) within the Vaughans Creek sub-watershed. A CED biologist reviewed the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) and the USGS National Hydrography Dataset (NHD) for potentially mapped features within the Subject Property (USFWS 2021; USGS 2021). The Subject Property is located on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) 51147C0092D (effective April 18, 2023) and 51147C0115D (effective April 18, 2023). According to the FEMA FIRM maps, there are floodplains located on the northern boundary of the Subject Property.

3.4 USFWS SPECIES LIST

Federally listed species are protected under federal law by the Endangered Species Act (ESA) of 1973 (16 U.S.C §1531-1544). CED reviewed the United States Fish & Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) to generate an Official Species List of federally listed threatened and endangered species which have the potential to occur within the Subject Property. The USFWS Official Species List can be found in [Appendix B](#). The resulting USFWS IPaC list indicates that there are that there is one (1) federally listed endangered, one (1) proposed endangered, and one (1) candidate species that have the potential to occur within the Subject Property. Potential federally protected species identified for the Subject Property are summarized in [Table 2](#), below. This species list can be used to initiate consultation with the USFWS under Section 7(c) of the ESA.

TABLE 2. FEDERALLY PROTECTED SPECIES FOR SUBJECT PROPERTY

Scientific Name	Common Name	Federal Status
<i>Myotis septentrionalis</i>	Northern Long-eared Bat	Endangered

Scientific Name	Common Name	Federal Status
<i>Perimyotis subflavus</i>	Tricolored Bat	Proposed Endangered
<i>Danaus plexippus</i>	Monarch Butterfly	Candidate

3.5 VIRGINIA DEPARTMENT OF GAME AND INLAND FISHERIES

In addition to the review of federal databases, a wildlife report and accompanying maps were generated from the VDGIF Virginia Fish and Wildlife Information Service web-based application. Information was gathered for the following: (a) known wildlife species and habitat features on the proposed project site and within 2-miles of the boundary of the proposed project site, and (b) known or potential sea turtle nesting beaches located within 0.5-mile of the disturbance zone. [Table 3](#), [Table 4](#), and [Table 5](#), below, were generated from the VDGIF Virginia Fish and Wildlife Information Service web-based application. The wildlife report and accompanying maps are included in [Appendix B](#).

TABLE 3. WILDLIFE SPECIES ON THE SUBJECT PROPERTY OR WITHIN 2-MILE RADIUS

Status	Tier	Common Name	Scientific Name	Confirmed
FEST	Ia	Bat, northern long-eared	Myotis septentrionalis	No
FESE	Ia	Spiny mussel, James	Parvaspina collina	No
FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon	No
FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	YES
FTST	IIa	Lance, yellow	Elliptio lanceolata	No
SE	Ia	Bat, little brown	Myotis lucifugus	No
FPSE	Ia	Bat, tri-colored	Perimyotis subflavus	No

Status	Tier	Common Name	Scientific Name	Confirmed
ST	Ia	Shrike, loggerhead	Lanius ludovicianus	No
ST	IIa	Floater, green	Lasmigona subviridis	YES
ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans	No
FC	IIIa	Butterfly, monarch	Danaus plexippus	No
CC	IIIa	Turtle, spotted	Clemmys guttata	No
	Ia	Shiner, bridle	Notropis bifrenatus	No
	Ib	Pigtoe, Virginia	Lexingtonia subplana	No
	Ic	Owl, northern saw-whet	Aegolius acadicus	No
	IIa	Treefrog, barking	Hyla gratiosa	No
	IIa	Duck, American black	Anas rubripes	No
	IIa	Warbler, cerulean	Setophaga cerulea	No
	IIa	Woodcock, American	Scolopax minor	No
	IIb	Rail, king	Rallus elegans	No

Status	Tier	Common Name	Scientific Name	Confirmed
	IIc	Skipper, Dotted	Hesperia attalus slossonae	No

Notes:

- FE = Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC = Federal Candidate; CC=Collection Concern
- Tier = not a legal status, Tier levels defined in Virginia Wildlife Action Plan (WAP)
- I = VA Wildlife Action Plan - Tier I - Critical Conservation Needed.
- II = VA Wildlife Action Plan - Tier II - Very High Conservation Needed.
- III = VA Wildlife Action Plan - Tier III - High Conservation Needed.
- IV = VA Wildlife Action Plan - Tier IV - Moderate Conservation Needed.
- Virginia Wildlife Action Plan Conservation Opportunity Ranking:
 - a - On the ground management strategies/actions exist and can be feasibly implemented.;
 - b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
 - c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

TABLE 4. THREATENED AND ENDANGERED WATERS

Stream Name	Highest TE	Status	Tier	Common Name	Scientific Name
(0238080)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
(0242413)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
(0243765)	FTST	ST	IIa	Floater, green	Lasmigona subviridis
(0243765)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
(0245920)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni

Stream Name	Highest TE	Status	Tier	Common Name	Scientific Name
(0247486)	FTST	ST	Ila	Floater, green	Lasmigona subviridis
(0247486)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
(0248285)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
(0249650)	FTST	ST	Ila	Floater, green	Lasmigona subviridis
(0249650)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0233754)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0234546)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0241156)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0244490)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0246404)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni

Stream Name	Highest TE	Status	Tier	Common Name	Scientific Name
Appomattox River (0247510)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0247597)	FTST	ST	IIa	Floater, green	Lasmigona subviridis
Appomattox River (0247597)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0248255)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0248687)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (0248717)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Buffalo Creek (0233618)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Buffalo Creek (0235436)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Buffalo Creek (0248328)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni

Stream Name	Highest TE	Status	Tier	Common Name	Scientific Name
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Notes:

- FE = Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC = Federal Candidate; CC=Collection Concern
- Tier = not a legal status, Tier levels defined in Virginia Wildlife Action Plan (WAP)
- I = VA Wildlife Action Plan - Tier I - Critical Conservation Needed.
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- IV = VA Wildlife Action Plan - Tier IV - Moderate Conservation Needed.
- Virginia Wildlife Action Plan Conservation Opportunity Ranking:
 - a - On the ground management strategies/actions exist and can be feasibly implemented.;
 - b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
 - c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

TABLE 5. HABITAT PREDICTED FOR AQUATIC WAP TIER I & II SPECIES

Stream Name	BOVA Code	Status	Tier	Common Name	Scientific Name
Appomattox River (20802071)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (20802072)	FTST	ST	IIa	Floater, green	Lasmigona subviridis
Appomattox River (20802072)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Appomattox River (20802072)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Buffalo Creek (20802071)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni

Stream Name	BOVA Code	Status	Tier	Common Name	Scientific Name
Buffalo Creek (20802072)	FTST	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni
Bush River (20802071)			Ia	Shiner, bridle	Notropis bifrenatus

Notes:

- FE = Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC = Federal Candidate; CC=Collection Concern
- Tier = not a legal status, Tier levels defined in Virginia Wildlife Action Plan (WAP)
- I = VA Wildlife Action Plan - Tier I - Critical Conservation Needed.
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- IV = VA Wildlife Action Plan - Tier IV - Moderate Conservation Needed.
- Virginia Wildlife Action Plan Conservation Opportunity Ranking:
- a - On the ground management strategies/actions exist and can be feasibly implemented.;
- b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
- c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

3.6 VIRGINIA NATURAL HERITAGE PROGRAM

In addition to the review of federal databases, CED conducted a review of the NHP database regarding natural heritage resources within Prince Edward (Appendix B). The NHP database tracks species (federal and state) in Prince Edward of potential occurrences of rare species and Federally listed species. In addition, the NHP database tracks managed areas within Prince Edward.

CED submitted a request to NHP regarding information about natural heritage resources for the Subject Property (Appendix B). NHP section responded to CED in a letter dated May 18, 2023, in which NHP provided information about natural heritage resources for the Subject Property ([Appendix B](#)). Based a query of the NHP database, natural heritage resources have not been documented within the Subject Property boundary including a 100-foot buffer. The absence of data may indicate that the Subject Property has not been surveyed, rather than confirm that the area lacks natural heritage resources. In addition, the Subject Property boundary does not intersect any of the predictive models identifying potential habitat for natural heritage resources. The Subject Property will impact Ecological Cores (C4 and C5) as identified in the Virginia Natural Landscape Assessment. Ecological Cores are areas of at least 100 acres of continuous interior, natural cover that provide habitat for a wide range of species. Cores are ranked from C1 to C5 (C5 being the least significant). DCR recommends avoidance of impacts to cores. When avoidance cannot be achieved, DCR recommends minimizing the area of impacts overall and concentrating the impacted area at the edges of cores, so that the most interior remains intact. NHP recommends the development of an invasive species management plan for the project

and the planting of Virginia native pollinator plant species that bloom throughout the spring and summer, to maximize benefits to native pollinators. NHP recommends planting these species in at least the buffer areas of the planned facility, and optimally including other areas within the project site. For screening zones outside the perimeter fencing, NHP recommends native species appropriate for the region be used.

3.7 VIRGINIA COASTAL MANAGEMENT PROGRAM – COASTAL GEMS

The Virginia Coastal Management Program Coastal GEMS mapping tool was accessed to determine Virginia’s coastal resource data and maps, coastal laws and policies and facts on coastal resource values with direct links to collaborating agencies responsible for current data. In addition, the Coastal GEMS contains an inventory of water and land based natural resources, conservation planning tools, and planning examples that can help us to protect Virginia’s coastal ecosystems. Based on a review of the mapping tool, there is conservation land (High Bridge Trail State Park) operated by the Virginia Department of Conservation and Recreation located approximately 0.5-mile north of the Subject Property. In addition, within the vicinity of the Subject Property, there is another section of the High Bridge Trail State Park approximately 1.1-miles northeast of the Subject Property, three (3) conservation easements managed by the Virginia Department of Historic Resources within two (2)-miles of the Subject Property, and a conservation easement managed by the Virginia Department of Conservation and Recreation approximately 2.1-miles west of the Subject Property.

3.8 CENTER FOR CONSERVATION BIOLOGY

The Center for Conservation Biology (CCB) mapping tool was accessed to determine the location of eagle nests relative to the Subject Property. Based on a review to the mapping tool, there are three (3) bald eagle nests located greater than 10-miles to the west, north, and east of the Subject Property. There is one (1) bald eagle nest located between 5 to 10-miles southwest of the Subject Property. The Subject Property is not located within an eagle nest buffer.

3.9 VIRGINIA WILDLIFE ENVIRONMENTAL REVIEW MAP SERVICE (WERMS)

The Virginia Wildlife Environmental Review Map Service (WERMS) mapping tool was accessed to determine data displaying designated threatened and endangered species waters, trout streams, waterbird nesting colonies, and anadromous fish use areas. Recreational datasets are also provided. Data layers include: DWR boat access sites, DWR fish hatcheries, DWR wildlife management areas, and DWR managed lakes. Based on a review of the mapping tool, several species were observed within both the Subject Property and a 1-mile radius of the Subject Property. These observations are summarized in [Table 6](#), below.

TABLE 6. SPECIES OBSERVED WITHIN 1-MILE RADIUS OF SUBJECT PROPERTY

Taxa Group	Genus	Species	Common Name	Federal Status	State Status
Aquatic Molluscs	Fusconaia	masoni	Pigtoe, Atlantic	Federal Proposed	State Threatened

Taxa Group	Genus	Species	Common Name	Federal Status	State Status
Reptiles	Thamnophis	sirtalis	Gartersnake, eastern		
Reptiles	Lampropeltis	calligaster	Kingsnake, northern mole		
Amphibians	Plethodon	cylindraceus	Salamander, white-spotted slimy		
Reptiles	Carphophis	amoenus	Wormsnake, eastern		
Mammals	Lynx	rufus	Bobcat		
Aquatic Molluscs	Corbicula	fluminea	Clam, Asian		
Amphibians	Pseudacris	crucifer	Peeper, spring		
Reptiles	Chelydra	serpentina	Turtle, snapping		
Amphibians	Scaphiopus	holbrookii	Spadefoot, eastern		
Fish	Semotilus	atromaculatus	Chub, creek		
Reptiles	Opheodrys	aestivus	Greensnake, northern rough		
Amphibians	Lithobates	sylvaticus	Frog, wood		

Taxa Group	Genus	Species	Common Name	Federal Status	State Status
Reptiles	Carphophis	amoenus	Wormsnake, eastern		
Amphibians	Acris	crepitans	Frog, eastern cricket		
Reptiles	Terrapene	carolina	Turtle, woodland box		
Reptiles	Pantherophis	alleganiensis	Ratsnake, eastern		
Reptiles	Sceloporus	undulatus	Lizard, eastern fence		
Amphibians	Anaxyrus	fowleri	Toad, Fowler's		
Reptiles	Sceloporus	undulatus	Lizard, eastern fence		
Reptiles	Terrapene	carolina	Turtle, woodland box		
Reptiles	Coluber	constrictor	Racer, northern black		

Fish Etheostoma flabellare Darter, fantail

4.0 THREATENED AND ENDANGERED SPECIES HABITAT ASSESSMENT FINDINGS

4.1 HABITAT ASSESSMENT FIELD INVESTIGATION

CED conducted field habitat assessments on July 19, 2023 by walking transects on the Subject Property. The objective of the field assessment was to determine the presence of suitable habitat for federally protected species within the Subject Property. CED evaluated, documented, and took pictures of the vegetative community assemblages during field investigations. Distribution and composition of vegetative communities throughout the Subject Property reflect variations in topography, soils, hydrology, and past and present land use practices. Based on the vegetative community assemblages observed, general communities and categories were defined and assessed throughout the Subject Property. Representative photographs of the Subject Property are provided in [Appendix C](#). Species specific presence/absence surveys, migratory bird pre-clearing nest surveys, protection and mitigation measures, or biological findings for threatened and endangered species were not conducted.

4.2 COMMUNITY DESCRIPTIONS

The Subject Property contains three (3) major habitat community types: Maintained/Disturbed Areas, Dry-Mesic Oak-Hickory Forest Areas, and Wetland Areas. The Maintained/Disturbed Areas account for approximately 4.87% (6.82-AC) of the Subject Property. The Dry-Mesic Oak-Hickory Forest account for approximately 91.49% (128.08-AC) of the Subject Property. The Wetland Areas account for approximately 3.63% (5.09-AC) of the Subject Property.

4.2.1 MAINTAINED/DISTURBED AREAS

The Subject Property contains easement corridors, trails, and a residential area. These areas are considered Maintained/Disturbed Areas since past, intermittent, and/or regular maintenance activities have occurred within them. Notable species in these maintained areas included Virginia creeper (*Parthenocissus quinquefolia*), honeysuckle (*Lonicera spp.*), Johnson grass (*Sorghum halepense*), broomsedge (*Andropogon virginicus*), black cherry (*Prunus serotina*), lambs ear (*Stachys byzantina*), eastern redcedar (*Juniperus virginiana*), sweetgum (*Liquidambar styraciflua*), eastern redbud (*Cercis canadensis*), common greenbrier (*Smilax rotundifolia*), chinese privet (*Ligustrum sinense*), bush clover (*Lespedeza spp.*), goldenrods (*Solidago spp.*), blackberries (*Rubus argutus*), Chinese bushclover (*Lespedeza cuneata*), yellow crownbeard (*Verbesina helianthoides*), Japanese stilt grass (*Microstegium vimineum*), common milkweed (*Asclepias syriaca*), butterfly weed (*Asclepias tuberosa*), and littleleaf sensitive-briar (*Mimosa microphylla*).

4.2.2 DRY-MESIC OAK-HICKORY FOREST

The Forested Area can be described as Dry-Mesic Oak-Hickory Forest and is considered non-wetland areas. The dynamics of the Dry-Mesic Oak-Hickory Forest community are unevenly aged with older trees present and are generally dominated by even-aged pine stands which are replaced by the climax oaks and hickories, only as the pines die. The Dry-Mesic Oak-Hickory Forest community is dominated by white oak (*Quercus alba*), red oak (*Quercus rubra*), pignut hickory (*Carya glabra*), and tulip poplar (*Liriodendron tulipifera*) species. Other notable species observed within this community include: black cherry (*Prunus serotina*), red maple (*Acer rubrum*), eastern

redbud (*Cercis canadensis*), Japanese honeysuckle (*Lonicera japonica*), shagbark hickory (*Carya ovata*), iron wood (*Carpinus caroliniana*), loblolly pine (*Pinus taeda*), sourwood (*Oxydendrum arboreum*), American beech (*Fagus grandifolia*), red maple (*Acer rubrum*), Hophornbeam (*Ostrya virginiana*), sweet gum (*Liquidambar styraciflua*), eastern white pine (*Pinus strobus*), shortleaf pine (*Pinus echinata*), American holly (*Ilex opaca*), eastern redcedar (*Juniperus virginiana*), mountain laurel (*Kalmia latifolia*), common running-cedar (*Diphasiastrum digitatum*), switch cane (*Arundinaria tecta*), common greenbrier (*Smilax rotundifolia*), Christmas fern (*Polystichum acrostichoides*), and New York fern (*Thelypteris noveboracensis*).

4.2.3 WETLANDS AREAS

In general, the wetland areas can be described as Headwater Wetlands and Bottomland Forested Wetlands.

Headwater Wetlands are seasonally saturated forested areas driven by groundwater and/or diffuse surface flow for hydrologic sources. Headwater Wetlands are relatively dry when compared to other riparian wetland types. This wetland type is characterized by relatively flat ground surfaces that are intermittently saturated by groundwater seepage or seasonally to semi-permanently saturated due to surface water from stream channels. There is a small wetland area located along the southern boundary that would be considered Headwater Forested Wetlands.

Overbank flooding from the adjacent stream can be an important source of water for Bottomland Forested Wetlands as can groundwater and surface runoff. Bottomland Emergent Wetlands are generally characterized by surface relief that provides good water storage. There are two (2) wetland systems located along the northern property boundary that are within the 100-year floodplain associated with Appomattox River. Based the proximity to Appomattox River and geographic positioning within the floodplain, these two (2) wetlands would be considered Bottomland Forested Wetlands. It should be noted that the upper fringes of these wetlands tend to have a few characteristics that are similar to a Headwater Forested Wetland.

4.3 WILDLIFE OBSERVATIONS

Common mammals which direct observation or evidence of presence was made at the Subject Property include gray squirrels (*Sciurus carolinensis*), raccoon (*Procyon lotor*), and white-tailed deer (*Odocoileus virginianus*). Other mammals likely to be present within the Subject Property include gray fox (*Urocyon cinereoargenteus*), opossum (*Didelphis virginiana*), woodland vole (*Microtus pinetorum*), deer mouse (*Peromyscus maniculatus*), woodchuck (*Marmota monax*), and the northern short-tailed shrew (*Blarina brevicauda*).

The Subject Property contains habitat for many songbirds including Carolina Chickadee (*Parus carolinensis*), Northern Cardinal (*Cardinalis cardinalis*), Tufted Titmouse (*Baeolophus bicolor*), and Carolina Wren (*Thryothorus ludovicianus*). Game birds and other non-song birds which could inhabit the Subject Property include Wild Turkey (*Meleagris gallopavo*), Wood Duck (*Aix sponsa*), American Woodcock (*Scolopax minor*), and various Woodpeckers (*Dryocopus spp.*). In addition, direct observation of Red-tailed Hawk (*Buteo jamaicensis*) was made at the Subject Property.

Amphibian species which could be found within the Subject Property include the American toad (*Anaxyrus americanus*), American bullfrog (*Lithobates catesbeianus*), spring peeper (*Pseudacris crucifer*), green frog (*Lithobates clamitus*), pickerel frog (*Lithobates palustris*), common gray treefrog (*Hyla versicolor*) and the red-spotted newt (*Notophthalmus viridescens*). Reptiles likely to be found within the Subject Property include the six-lined racerunner (*Cnemidophorus sexlineatus*), five-lined skink (*Plestiodon fasciatus*), broad-headed skink

(*Plestiodon laticeps*), the eastern fence lizard (*Sceloporus undulatus*), black rat snake (*Pantherophis obsoletus*), garter snake (*Thamnophis sirtalis*), timber rattlesnake (*Crotalus horridus*), and copperhead (*Agkistrodon contortrix*). Direct evidentiary observation of eastern box turtle presence (*Terrapene carolina carolina*) was made at the Subject Property.

4.4 BIOLOGICAL FINDINGS

Based upon the results of this habitat assessment, the primary federal species to be of regulatory concern for the High Bridge Solar, LLC project include: (1) Northern Long-eared bat and (2) Tricolored bat. The monarch butterfly, is also listed; however, is a Candidate species and is not afforded any specific legal protection at this time.

4.4.1 NORTHERN LONG-EARED BAT (*MYOTIS SEPTENTRIONALIS*) - ENDANGERED

In 2015, the USFWS listed the northern long-eared bat (NLEB) as threatened under the Endangered Species Act (ESA), due to the impacts of white-nose syndrome, a disease linked to the deaths of millions of cave-hibernating bats. The species seasonal and annual survival largely depends on successfully hibernating and roosting their young and therefore, federal protections focus on the locations where the NLEB hibernate and roost during the pup season (USFWS, 2015). USFWS wintering dates for the NLEB are typically November 15 through March 31.

“The NLEB is a medium-sized bat with a body length of 3 to 3.7 inches and a wingspan of 9 to 10 inches. Their fur color can be medium to dark brown on the back and tawny to pale brown on the underside. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, *Myotis*” (USFWS, 2015).

“NLEBs spend winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. Within hibernacula, they occur most often in small crevices or cracks, often with only the nose and ears visible. During the summer, NLEBs roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags. Males and non-reproductive females may also roost in cooler places, like caves and mines. They seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. This bat has also been found rarely roosting in structures, like barns and sheds. Maximum lifespan for the NLEB is estimated to be up to 18.5 years” (USFWS 2015).

“The most immediate threat to NLEB populations is white-nose syndrome. Since symptoms were first observed in New York in 2006, numbers of northern long-eared bats have declined by up to 99 percent in the Northeast. Although there is uncertainty about the rate that white-nose syndrome will spread throughout the species’ range, it is expected to spread throughout the United States soon. Other sources of NLEB mortality include impacts to hibernacula, loss or degradation of summer habitat, and impacts associated with wind farm operations” (USFWS 2015).

The Subject Property contains approximately 91.49% (128.08-AC) undeveloped forested areas that are typical habitat conditions capable of supporting populations of NLEB. No NLEB species were observed on the Subject Property during on-site field investigations. Based on the NHP database, there are no documented occurrences of NLEB on the Subject Property or within a 1-mile radius. Based on a review of the Proposed Site Plan (Sheet G-101) for the High Bridge Solar, LLC project ([Appendix D](#)), the proposed solar farm development does impact

undeveloped forested areas. **Therefore, based on the fact that there is not a known maternity roost or hibernacula within the Subject Property, it is believed that a biological finding of any future project is “May Affect, Not Likely to Adversely Affect” for the Northern Long-eared bat.**

4.4.2 TRICOLORED BAT (*PERIMYOTIS SUBFLAVUSS*) - PROPOSED ENDANGERED

The Tricolored bat is a small insectivorous bat that is distinguished by its unique tricolored fur and often appears yellowish to nearly orange. The once common species is wide-ranging across the eastern and central United States and portions of southern Canada, Mexico and Central America. During the winter, tricolored bats are often found in caves and abandoned mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures. Tricolored bats face extinction due primarily to the range-wide impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. White-nose syndrome has caused estimated declines of more than 90 percent in affected tricolored bat colonies across the majority of the species range. While no official hibernacula dates are established for the Tricolored bat, the species is known to generally mirror habitat and timing criteria of the NLEB. USFWS wintering dates for the NLEB are typically November 15 through March 31.

The Subject Property contains approximately 91.49% (128.08-AC) undeveloped forested areas that are typical habitat conditions capable of supporting populations of Tricolored bat. No Tricolored bat species were observed on the Subject Property during on-site field investigations. Based on the NHP database, there are no documented occurrences of Tricolored bat on the Subject Property or within a 1-mile radius. Based on a review of the Proposed Site Plan (Sheet G-101) for the High Bridge Solar, LLC project ([Appendix D](#)), the proposed solar farm development does impact the undeveloped forested areas. **Therefore, based on the fact that there is not a known maternity roost or hibernacula within the Subject Property, it is believed that a biological finding of any future project is “May Affect, Not Likely to Adversely Affect” for the Tricolored bat.**

4.4.3 MONARCH BUTTERFLY (*DANA PLEXIPPUS*) - CANDIDATE

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. In the fall, in both eastern and western North America, monarchs begin migrating to their respective overwintering sites. In early spring (February-March), surviving monarchs break diapause and mate at the overwintering sites before dispersing. Milkweed is the host plant for monarchs and is the lone plant on which the butterflies lay their eggs in spring and the only food source for monarch larvae. It should be noted that the monarch butterfly has been listed as a candidate species by the USFWS within the lower 48 states of the US. At this time this species is not afforded any specific legal protection; however, final determination of federal status and applicable regulations surrounding it should be monitored and addressed if listing occurs prior to construction.

5.0 CONCLUSIONS

Based upon the results of this evaluation, the primary federal species to be of regulatory concern for the High Bridge Solar, LLC project include: (1) Northern Long-eared Bat and (2) Tricolored Bat. The monarch butterfly, is also listed; however, is a Candidate species and is not afforded any specific legal protection at this time. These species were identified based on review of the USFWS county list of protected species for Prince Edward County, Virginia and a refined USFWS IPAC database search of the High Bridge Solar, LLC project. In addition, a formal request was submitted to NHP requesting information of rare species, important natural communities, natural areas, and/or conservation/managed areas that are within both the Subject Property and a one-mile radius of the Subject Property. A summary of findings and biological findings for the High Bridge Solar, LLC is provided in [Table 7](#), below.

TABLE 7. THREATENED AND ENDANGERED SPECIES HABITAT ASSESSMENT SUMMARY

Common Name	Scientific Name	Federal Status	Potential Habitat Identified On-site/ Description	Conclusion/ Recommendation
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	E	Live and dead leaf clusters of live or recently dead deciduous hardwood trees, among pine needles, eastern red cedar (<i>Juniperus virginiana</i>)	<ul style="list-style-type: none"> • Survey window from May 15 through August 15. • Wintering dates November 15 through March 31. • No individuals identified within 1 mile per NCNHP. • Proposed Site Plan (Sheet G-101) does impact Dry-Mesic Oak-Hickory Forest area. • A biological finding of “May Affect, Not Likely to Adversely Affect” is recommended.

Common Name	Scientific Name	Federal Status	Potential Habitat Identified On-site/ Description	Conclusion/ Recommendation
Tricolored Bat	<i>Perimyotis subflavus</i>	(P) E	Live and dead leaf clusters of live or recently dead deciduous hardwood trees, among pine needles, eastern red cedar (<i>Juniperus virginiana</i>)	<ul style="list-style-type: none"> • Survey window from May 15 through August 15. • Wintering dates assumed to be November 15 through March 31. • No individuals identified within 1 mile per NCNHP. • Proposed Site Plan (Sheet G-101) does impact Dry-Mesic Oak-Hickory Forest area. • A biological finding of "May Affect, Not Likely to Adversely Affect" is recommended.
Monarch Butterfly	<i>Danaus plexippus</i>	C	Not afforded any specific legal protection	<ul style="list-style-type: none"> • No individuals identified within 1 mile per NHP • Habitat is marginal and limited to areas along the roadside.

Note: E = Endangered; C = Candidate; P = Proposed; T = Threatened

6.0 REFERENCE

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual" Technical Report Y-87-1. US Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Environmental Laboratory. 2012. "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)". Technical Report ERDC/EL TR-09-19. US Army Engineer Research and Development Center, Vicksburg, Miss.

Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineation Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington D.C. Cooperative technical publication. 76 pp. plus appendices.

Federal Emergency Management Agency (FEMA). 2019. Flood Map Service Center. <https://msc.fema.gov/portal>.

National List of Hydric Soils 2010, United States Department of Agriculture Natural Resource Conservation Service, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>

North Carolina - Division of Water Resources. 2010. Methodology for Identification of Intermittent and Perennial Stream and Their Origins, Version 4.11.

United States Army Corps of Engineers. Antecedent Precipitation Tool (APT) - v1.0.19. May 3, 2021. <https://github.com/jDeters-USACE/Antecedent-Precipitation-Tool/releases/tag/v1.0.19>

United States Department of Agriculture. Natural Resources Conservation Service <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

United States Fish and Wildlife Service. National Wetlands Inventory <http://www.fws.gov/nwi/Overview.html>

del Hoyo, J., Elliott, A., & Sargatal, J., eds. (1994). Handbook of the Birds of the World Vol. 2. Lynx Edicions

Niering, W. A. and N C Olmstead, 1979. The Audubon Society Field Guide to North American Wildflowers. Alfred A. Knopf Publishing: New York, New York.

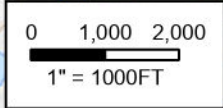
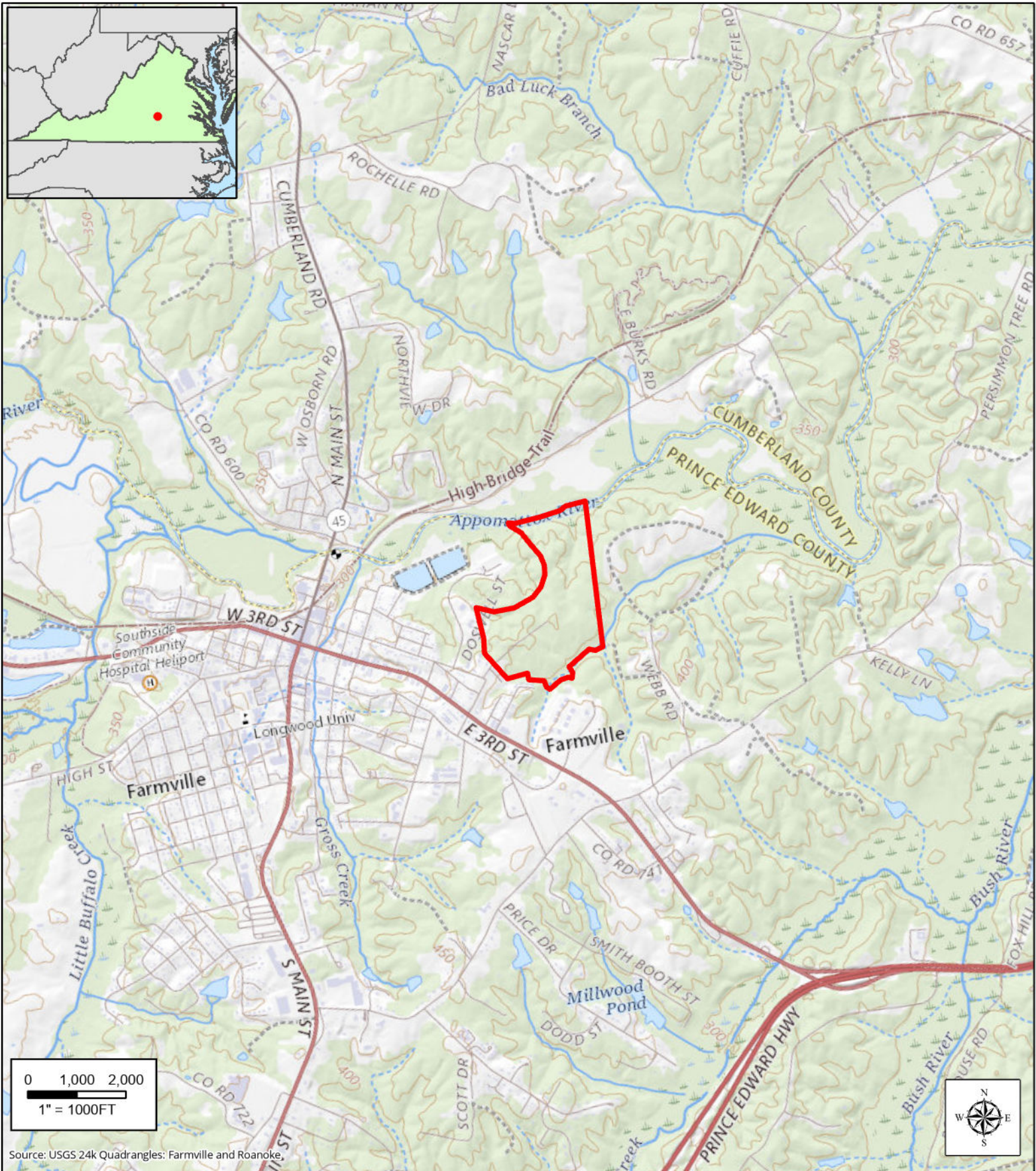
Peterson, R. T. 1968. A Field Guide to Wildflowers, Northeast and North-Central North America. Houghton Mifflin Publishing: Boston, Massachusetts.

Schafale, Michael P., and A.S. Weakley. 1990. Classification of the Natural Communities of North Carolina. North Carolina Natural Heritage Programs. NCDENR

USDA, NRCS. 2003. Field Indicators of Hydric Soils in the United States, Version 5.01, G.W. Hurt, P.M. Whited, and R.F. Pringle (eds.). USDA, NRCS in cooperation with the National technical Committee for Hydric Soils, Fort Worth, TX.

APPENDIX A

FIGURES



Source: USGS 24k Quadrangles: Farmville and Roanoke,



Prepared For:

High Bridge Solar, LLC
 19890 State Line Road
 South Bend, IN 46637

Prepared By:

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 Cary, NC 27518
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Vicinity Map

High Bridge Solar, LLC Project

Prince Edward County, Virginia

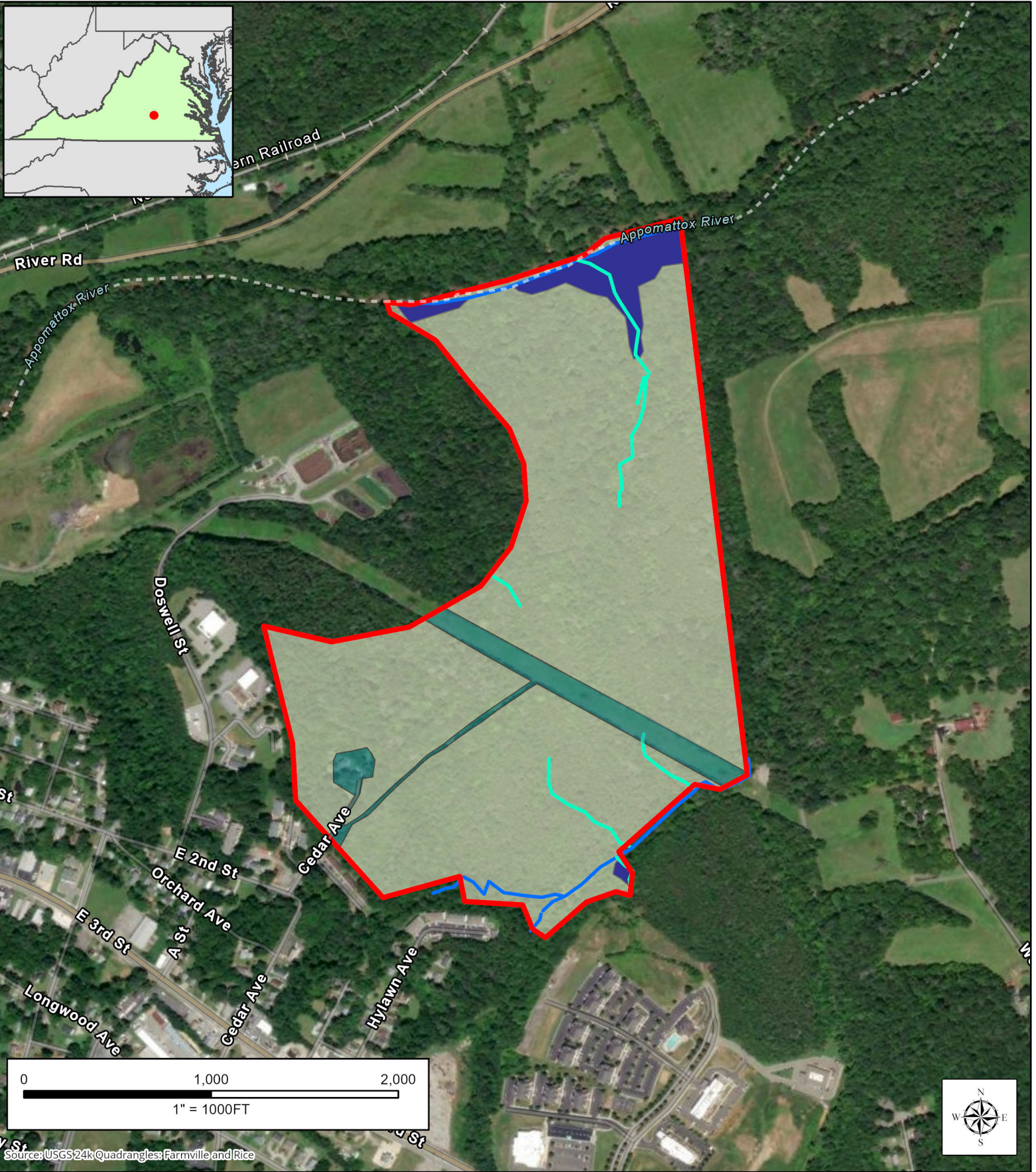
Figure 1

Property Boundary

Date:
7/10/2023

Project Number:
23006216A

Drawn By:
SS



Source: USGS 24k Quadrangles: Farmville and Rice

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 High Bridge Solar, LLC
 19890 State Line Road
 South Bend, IN 46637

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Habitat Community Map

High Bridge Solar, LLC Project

Prince Edward County, Virginia

Date:	Project Number:	Drawn By:
8/2/2023	23006216A	SS

Figure 2

- Property Boundary
- Dry-Mesic Oak-Hickory Forest
- Maintained-Disturbed Areas (+/- 6.82 AC)
- Intermittent Stream
- Perennial Stream
- PFO Wetlands

APPENDIX B

NATURAL COMMUNITIES & WILDLIFE COMMUNITIES DATA



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project Code: 2023-0105474
Project Name: 23006216A- High Bridge Solar LLC

July 17, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

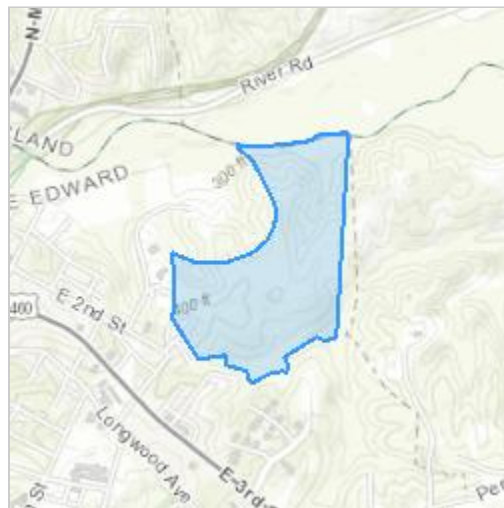
(804) 693-6694

PROJECT SUMMARY

Project Code: 2023-0105474
Project Name: 23006216A- High Bridge Solar LLC
Project Type: Power Gen - Solar
Project Description: On behalf of High Bridge Solar, LLC, Colliers Engineering & Design, Inc. (DBA Maser Consulting) (CED) conducted a Threatened and Endangered Species Habitat Assessment for the High Bridge Solar, LLC project located at the terminus of Hylawn Avenue in Farmville, Virginia within Prince Edward County (hereinafter referred to as “Subject Property”). The Subject Property is comprised of one (1) parcels of land that are further described as Prince Edward County Parcel Information Number (PIN):024-A-6. The Subject Property is approximately 140 acres in size and located at latitudinal coordinates 37.301770 N and longitudinal coordinates -78.373710 W. The Subject Property is located approximately 1.5-miles west-southwest of Farmville, Virginia and 2.5-miles east-northeast of Fairfield. The Subject Property is being considered for solar farm development.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.3026287,-78.37388679966637,14z>



Counties: Cumberland and Prince Edward counties, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [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.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

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 OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats 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.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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 <i>Haliaeetus leucocephalus</i> 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 Jul 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Chimney Swift <i>Chaetura pelagica</i> 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 <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> 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 <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> 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.

BCC Rangewide
(CON)

Chimney Swift
BCC Rangewide
(CON)

Eastern Whip-poor-will
BCC Rangewide
(CON)

Kentucky Warbler
BCC Rangewide
(CON)

Prairie Warbler
BCC Rangewide
(CON)

Prothonotary
Warbler
BCC Rangewide
(CON)

Red-headed
Woodpecker
BCC Rangewide
(CON)

Rusty Blackbird
BCC - BCR

Wood Thrush
BCC Rangewide
(CON)

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

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.

IPAC USER CONTACT INFORMATION

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Virginia Department of Game and Inland Fisheries

Fish and Wildlife Information Service

[Home](#) » [By Coordinates](#) » VaFWIS GeographicSelect Options

Options

Species Information

[By Name](#)

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VaFWIS Initial Project Assessment Report Compiled on 7/18/2023, 2:27:57 PM

Known or likely to occur within a **2 mile radius around point 37.3019763 78.3742208** in **049 Cumberland County, 147 Prince Edward County, VA**

[View Map of Site Location](#)

475 Known or Likely Species ordered by Status Concern for Conservation (displaying first 21) (21 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
050022	FEST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060017	FESE	Ia	Spiny mussel, James	Parvaspina collina		BOVA
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes	BOVA, TEWaters, Habitat
060029	FTST	Ila	Lance, yellow	Elliptio lanceolata		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
060081	ST	Ila	Floater, green	Lasmigona subviridis	Yes	BOVA, TEWaters, Habitat
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100079	FC	IIIa	Butterfly, monarch	Danaus plexippus		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
010077		Ia	Shiner, bridge	Notropis bifrenatus		BOVA, Habitat
060084		Ib	Pigtoe, Virginia	Lexingtonia subplana		BOVA
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA
020002		Ila	Treefrog, barking	Hyla gratiosa		BOVA

040052		Ila	Duck, American black	Anas rubripes		BOVA
040320		Ila	Warbler, cerulean	Setophaga cerulea		BOVA
040140		Ila	Woodcock, American	Scolopax minor		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
100166		Ilc	Skipper, Dotted	Hesperia attalus slossonae		BOVA

To view **All 475 species** [View 475](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.; b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c - No on the ground actions or research needs have been identified or all identified conserva

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters (20 Reaches)

[View Map of All](#)

[Threatened and Endangred Waters](#)

Stream Name	T&E Waters Species						View Map
	Highest TE *	BOVA Code, Status *, Tier **, Common & Scientific Name					
(0238080.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
(0242413.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
(0243765.)	FTST	060081	ST	Ila	Floater, green	Lasmigona subviridis	Yes
		060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	
(0245920.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
(0247486.)	FTST	060081	ST	Ila	Floater, green	Lasmigona subviridis	Yes
		060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	
(0248285.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
(0249650.)	FTST	060081	ST	Ila	Floater, green	Lasmigona subviridis	Yes
		060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	
Appomattox River (0233754.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (0234546.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (0241156.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (0244490.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (0246404.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (0247510.)	FTST	060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (0247597.)	FTST	060081	ST	Ila	Floater, green	Lasmigona subviridis	Yes

		060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	
Appomattox River (0248255)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (0248687)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (0248717)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Buffalo Creek (0233618)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Buffalo Creek (0235436)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Buffalo Creek (0248328)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Habitat Predicted for Aquatic WAP Tier I & II Species (6 Reaches)

[View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species](#)

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
Appomattox River (20802071)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Appomattox River (20802072)	FTST	060081	ST	lla	Floater, green	Lasmigona subviridis	Yes
		060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	
Appomattox River (20802072)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Buffalo Creek (20802071)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Buffalo Creek (20802072)	FTST	060173	FTST	la	Pigtoe, Atlantic	Fusconaia masoni	Yes
Bush River (20802071)		010077		la	Shiner, bridle	Notropis bifrenatus	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Public Holdings:

N/A

Compiled on 7/18/2023, 2:27:57 PM | 11515415.0 | report=IPA | searchType=R | dist= 3218 | poi= 37,3019763,78,3742208 | PixelSize=64, Anadromous=0.017283, BECAR=0.016875, Bats=0.015339, Buffer=0.061587, County=0.050704, Impediments=0.01682, Init=0.094448, PublicLands=0.022055, SppObs=0.165196, TEWaters=0.023065, TierReaches=0.034914, TierTerrestrial=0.0353290000000001, Total=0.690103, Tracking_BOVA=0.176721, Trout=0.017882

If you have difficulty reading or accessing documents, please [Contact Us](#) for assistance.

Site Location

37,18,07.1 -78,22,27.1
is the Search Point

Show Position Rings

Yes No

1 mile and 1/4 mile at the Search Point

Show Search Area

Yes No

2 Search distance miles radius

Search Point is at map center

Base Map Choices

Topography ▼

Map Overlay Choices

Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous



[Refresh Browser Page](#)

Map Click



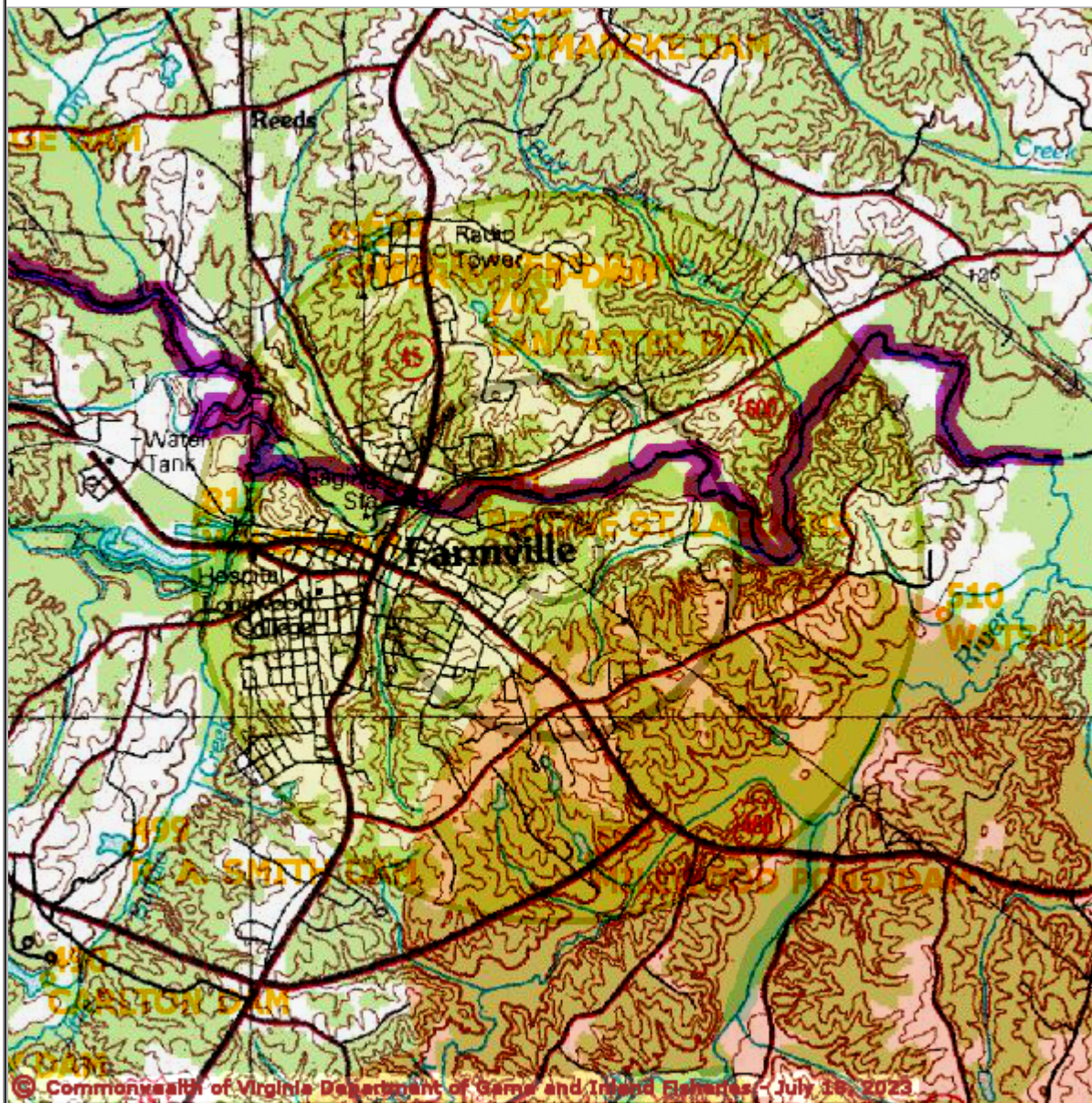
Map Scale



Screen Size



[Help](#)



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Map Overlay Legend

- T & E Waters**
-  **Federal**
-  **State**
- Predicted Habitat WAP Tier I & II**
-  **Aquatic**
-  **Terrestrial**
- Trout Waters**
-  **Class I - IV**
-  **Class V - VI**
- Anadromous Fish Reach**
-  **Confirmed**
-  **Potential**
-  **Impediment**
-  **Position Rings
1 mile and 1/4
mile at the
Search Point**
-  **2 mile radius
Search Area**
- Bald Eagle
Concentration Areas
and Roosts**
- 



Point of Search 37,18,07.1 -78,22,27.1
 Map Location 37,18,07.1 -78,22,27.1

- Select **Coordinate System**:
- Degrees, Minutes, Seconds Latitude - Longitude
 - Decimal Degrees Latitude - Longitude
 - Meters UTM NAD83 East North Zone
 - Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](http://Microsoft.terraserver-usa.com) for details)

Map projection is UTM Zone 17 NAD 1983 with left 727926 and top 4136405. Pixel size is 16 meters. Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+- are from the United States Department of the Interior, United States Geological Survey. Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network. Shaded topographic maps are from TOPO! ©2006 National Geographic <http://www.national.geographic.com/topo> All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2023-07-18 14:30:05 (qa/qc March 21, 2016 12:20 - tn=1515415.0 dist=3218 I)
 \$poi=37.3019763 -78.3742208

Threatened and Endangered Waters

37,18,07.1 -78,22,27.1
is the Search Point

Show Position Rings

Yes No

1 mile and 1/4 mile at the Search Point

Show Search Area

Yes No

2 Search distance miles radius

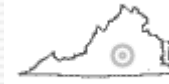
Search Point is at map center

Base Map Choices

Topography

Map Overlay Choices

Current List: Position, Search, TEWaters



[Refresh Browser Page](#)

Map Click



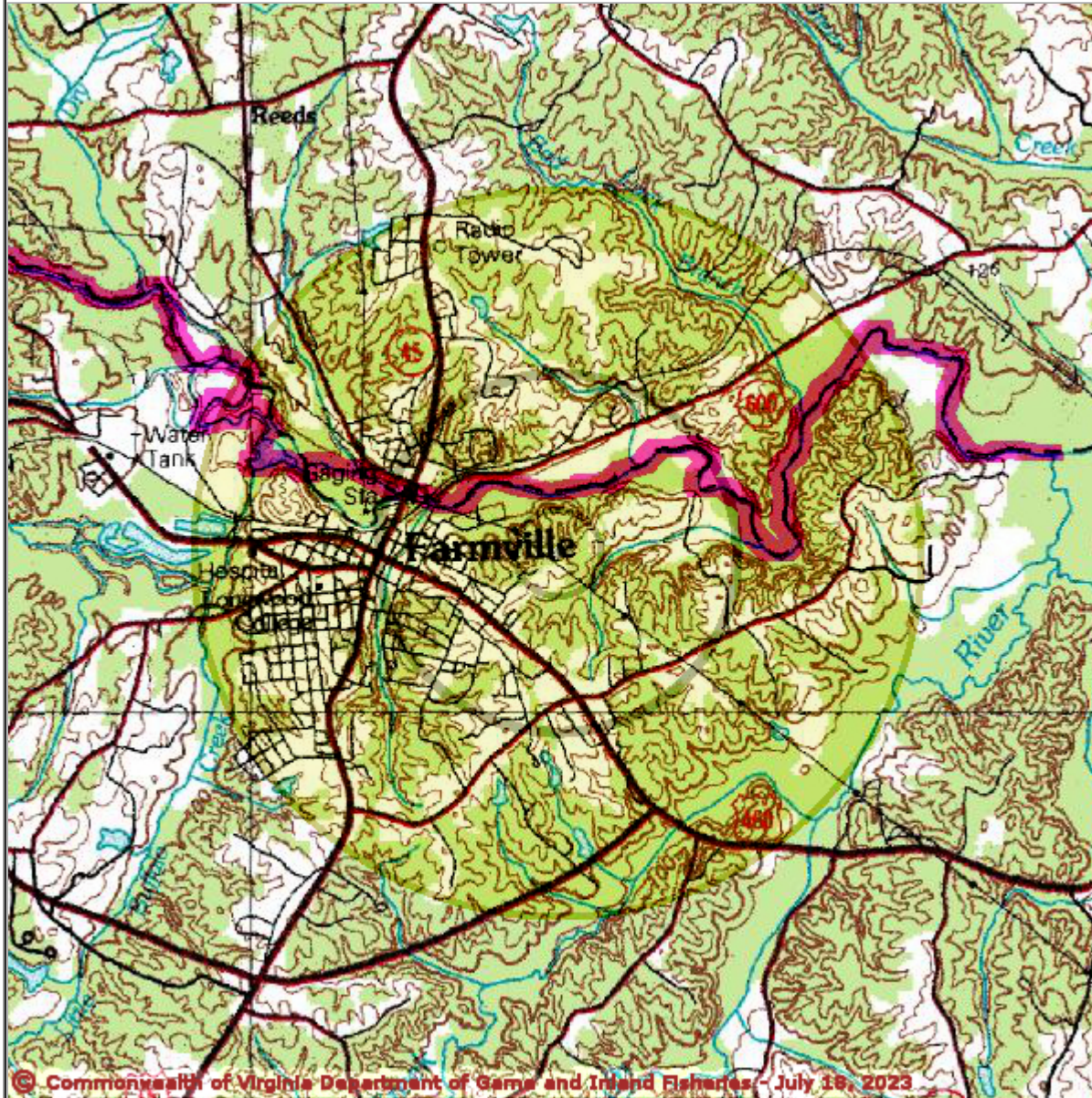
Map Scale



Screen Size



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Map Overlay Legend

T & E Waters



Point of Search 37,18,07.1 -78,22,27.1

Map Location 37,18,07.1 -78,22,27.1

- Select **Coordinate System**:
- Degrees, Minutes, Seconds Latitude - Longitude
 - Decimal Degrees Latitude - Longitude
 - Meters UTM NAD83 East North Zone
 - Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](https://www.microsoft.com/terraserver-usa) for details)

Map projection is UTM Zone 17 NAD 1983 with left 727926 and top 4136405. Pixel size is 16 meters. Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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map assembled 2023-07-18 14:31:01 (qa/qc March 21, 2016 12:20 - tn=1515415.0 dist=3218
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 \$poi=37.3019763 -78.3742208

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Habitat Predicted for WAP Tier I and II Species

37,18,07.1 -78,22,27.1 is the Search Point

Show Position Rings

Yes No

4 miles and 1 mile at the Search Point

Show Search Area

Yes No

2 Search distance miles radius

Search Point is at map center

Base Map Choices

Topography

Map Overlay Choices

Current List: Position, Search, TierReaches



[Refresh Browser Page](#)

Map Click



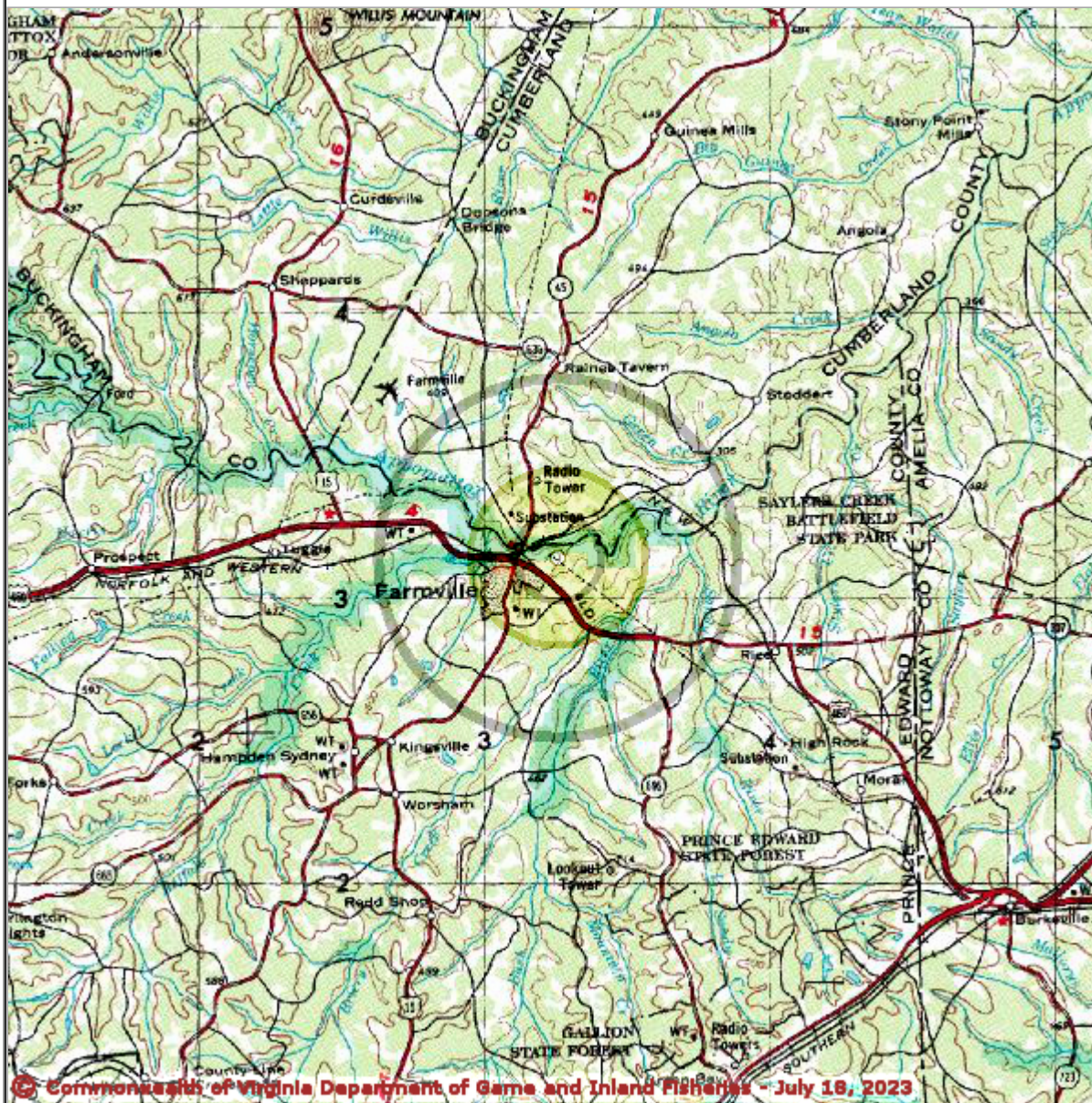
Map Scale



Screen Size




[Help](#)



Commonwealth of Virginia Department of Game and Inland Fisheries - July 18, 2023

Map Overlay Legend

Predicted Habitat
WAP Tier I & II


Aquatic

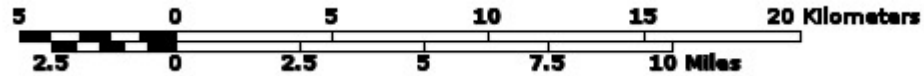


Terrestrial



Position Rings
4 miles and 1
mile at the
Search Point



2 mile radius
Search Area


Point of Search 37,18,07.1 -78,22,27.1

Map Location 37,18,07.1 -78,22,27.1

Select **Coordinate System:** Degrees, Minutes, Seconds Latitude - Longitude

Decimal Degrees Latitude - Longitude

Meters UTM NAD83 East North Zone

Meters UTM NAD27 East North Zone

Base Map source: USGS 1:250,000 topographic maps (see [Microsoft terraserver-usa.com](https://www.microsoft.com/terraserer-usa.com) for details)

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All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2023-07-18 14:31:21 (qa/qc March 21, 2016 12:20 - tn=1515415.0 dist=3218

I)

\$poi=37.3019763 -78.3742208

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Tier Reaches Group Appomattox River (20802072)

37,18,07.1 -78,22,27.1
is the Search Point

Display at center | Item Location is not at map center

Show Position Rings

Yes No

1 mile and 1/4 mile at the Search Point

Show Search Area

Yes No

2 Search distance miles radius

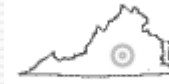
Search Point is at map center

Base Map [Choices](#)

Topography

Map Overlay [Choices](#)

Current List: Position, Search, Observation

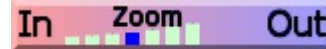


[Refresh Browser Page](#)

Map Click



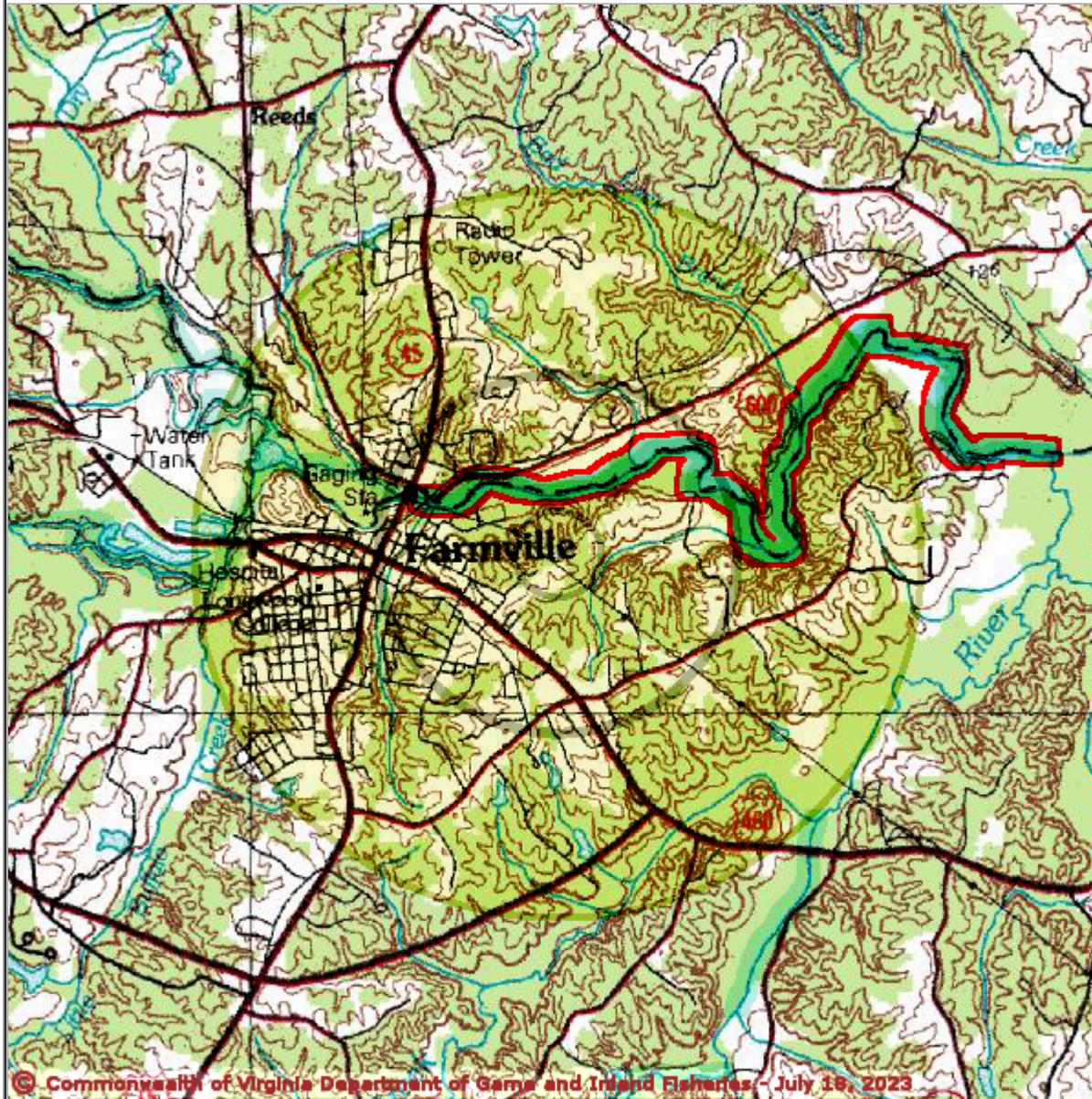
Map Scale



Screen Size






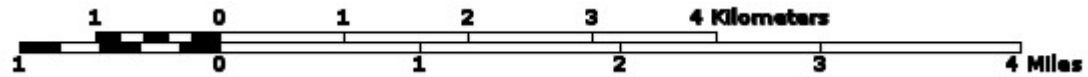
[Help](#)



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Map Overlay Legend

-  **Position Rings**
1 mile and 1/4 mile at the Search Point
-  **2 mile radius Search Area**
-  **Data Observation Site**



Point of Search 37,18,07.1 -78,22,27.1

Map Location 37,18,07.1 -78,22,27.1

- Select **Coordinate System**: Degrees,Minutes,Seconds Latitude - Longitude
 Decimal Degrees Latitude - Longitude
 Meters UTM NAD83 East North Zone
 Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](https://www.microsoft.com/terraserver-usa) for details)

Map projection is UTM Zone 17 NAD 1983 with left 727926 and top 4136405. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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map assembled 2023-07-18 14:33:48 (qa/qc March 21, 2016 12:20 - tn=1515415.1 dist=3218 I)

```
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+ '' + Convert(varchar(10),floor((miny+maxy)/2)) from
vafwis_tables.dbo.cvTierReaches where SEG_ID in ('208020715437 ','208020715446
','208020715471 ','208020715477 ')
```


Tier Reaches Group Appomattox River (20802072)

37,18,07.1 -78,22,27.1
is the Search Point

Display at center | Item Location is not at map center

Show Position Rings

Yes No

1 mile and 1/4 mile at the Search Point

Show Search Area

Yes No

2 Search distance miles radius

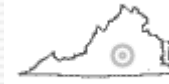
Search Point is at map center

Base Map Choices

Topography

Map Overlay Choices

Current List: Position, Search, Observation

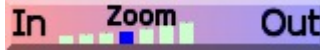


[Refresh Browser Page](#)

Map Click



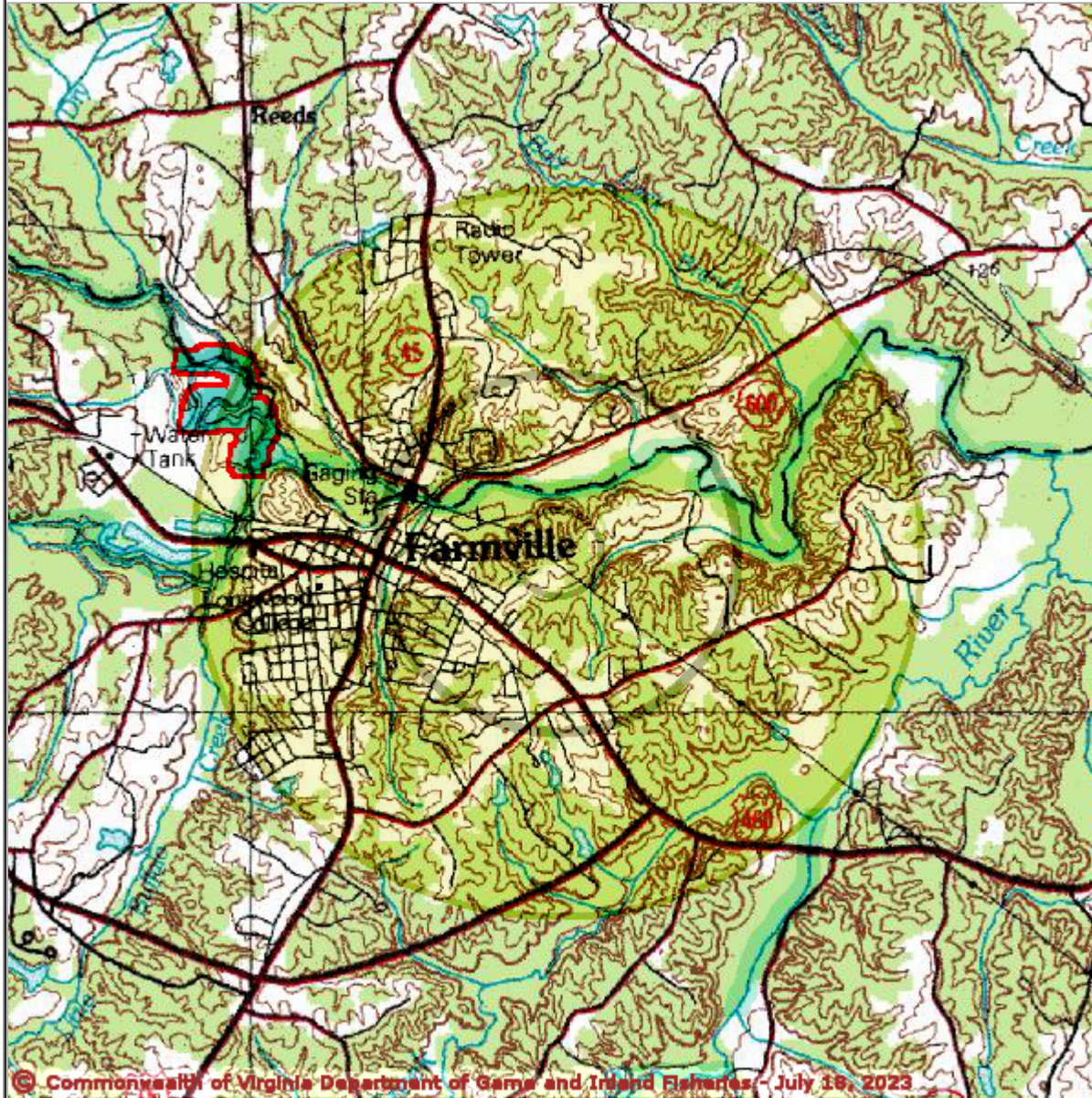
Map Scale



Screen Size






[Help](#)



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Map Overlay Legend

-  **Position Rings**
1 mile and 1/4 mile at the Search Point
-  **2 mile radius Search Area**
-  **Data Observation Site**



Point of Search 37,18,07.1 -78,22,27.1

Map Location 37,18,07.1 -78,22,27.1

- Select **Coordinate System**: Degrees,Minutes,Seconds Latitude - Longitude
 Decimal Degrees Latitude - Longitude
 Meters UTM NAD83 East North Zone
 Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](https://www.microsoft.com/teraserver-usa.com) for details)

Map projection is UTM Zone 17 NAD 1983 with left 727926 and top 4136405. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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map assembled 2023-07-18 14:34:04 (qa/qc March 21, 2016 12:20 - tn=1515415.1 dist=3218 I)
`$poi=37.3019763 -78.3742208$query=select Convert(varchar(10),floor((minx+maxx)/2)) + '' + Convert(varchar(10),floor((miny+maxy)/2)) from vafwis_tables.dbo.cvTierReaches where SEG_ID in ('208020722402 ')`

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Tier Reaches Group Buffalo Creek (20802071)

37,18,07.1 -78,22,27.1
is the Search Point

Display at center | Item Location is not at map center

Show Position Rings

Yes No

1 mile and 1/4 mile at the Search Point

Show Search Area

Yes No

2 Search distance miles radius

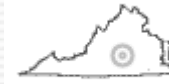
Search Point is at map center

Base Map Choices

Topography ▾

Map Overlay Choices

Current List: Position, Search, Observation

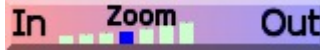


[Refresh Browser Page](#)

Map Click



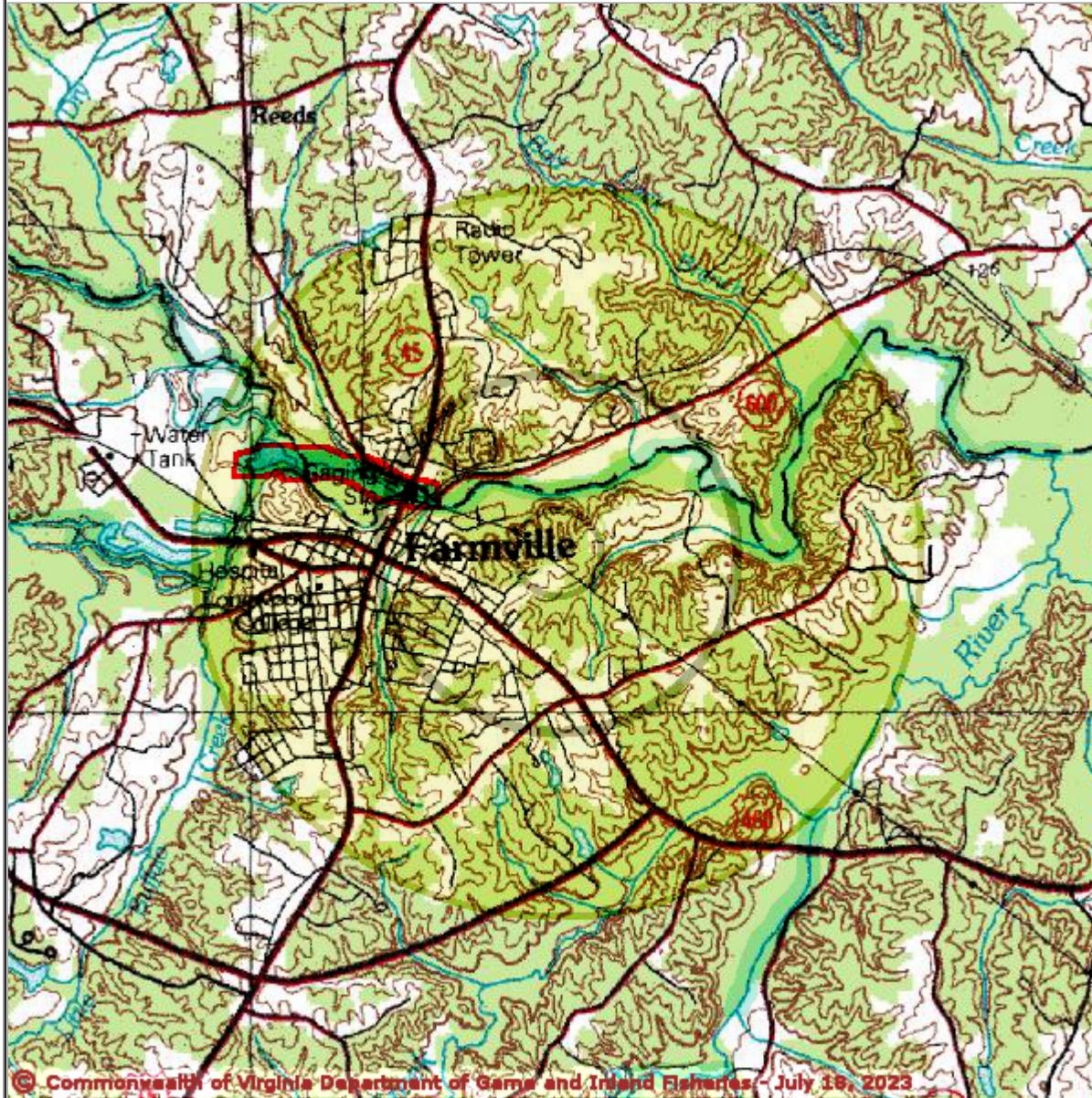
Map Scale



Screen Size





[Help](#)



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Map Overlay Legend

-  **Position Rings**
1 mile and 1/4 mile at the Search Point
-  **2 mile radius Search Area**
-  **Data Observation Site**



Point of Search 37,18,07.1 -78,22,27.1

Map Location 37,18,07.1 -78,22,27.1

- Select **Coordinate System**: Degrees,Minutes,Seconds Latitude - Longitude
 Decimal Degrees Latitude - Longitude
 Meters UTM NAD83 East North Zone
 Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](https://www.microsoft.com/teraserver-usa.com) for details)

Map projection is UTM Zone 17 NAD 1983 with left 727926 and top 4136405. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixels. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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map assembled 2023-07-18 14:34:28 (qa/qc March 21, 2016 12:20 - tn=1515415.1 dist=3218 I)
 \$poi=37.3019763 -78.3742208\$query=select Convert(varchar(10),floor((minx+maxx)/2)) + '' + Convert(varchar(10),floor((miny+maxy)/2)) from vafwis_tables.dbo.cvTierReaches where SEG_ID in ('208020722407 ','208020722409 ')

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Tier Reaches Group Buffalo Creek (20802072)

37,18,07.1 -78,22,27.1
is the Search Point

Display at center | Item Location is not at map center

Show Position Rings

Yes No

1 mile and 1/4 mile at the Search Point

Show Search Area

Yes No

2 Search distance miles radius

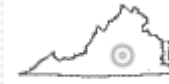
Search Point is at map center

Base Map Choices

Topography ▾

Map Overlay Choices

Current List: Position, Search, Observation

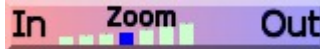


[Refresh Browser Page](#)

Map Click



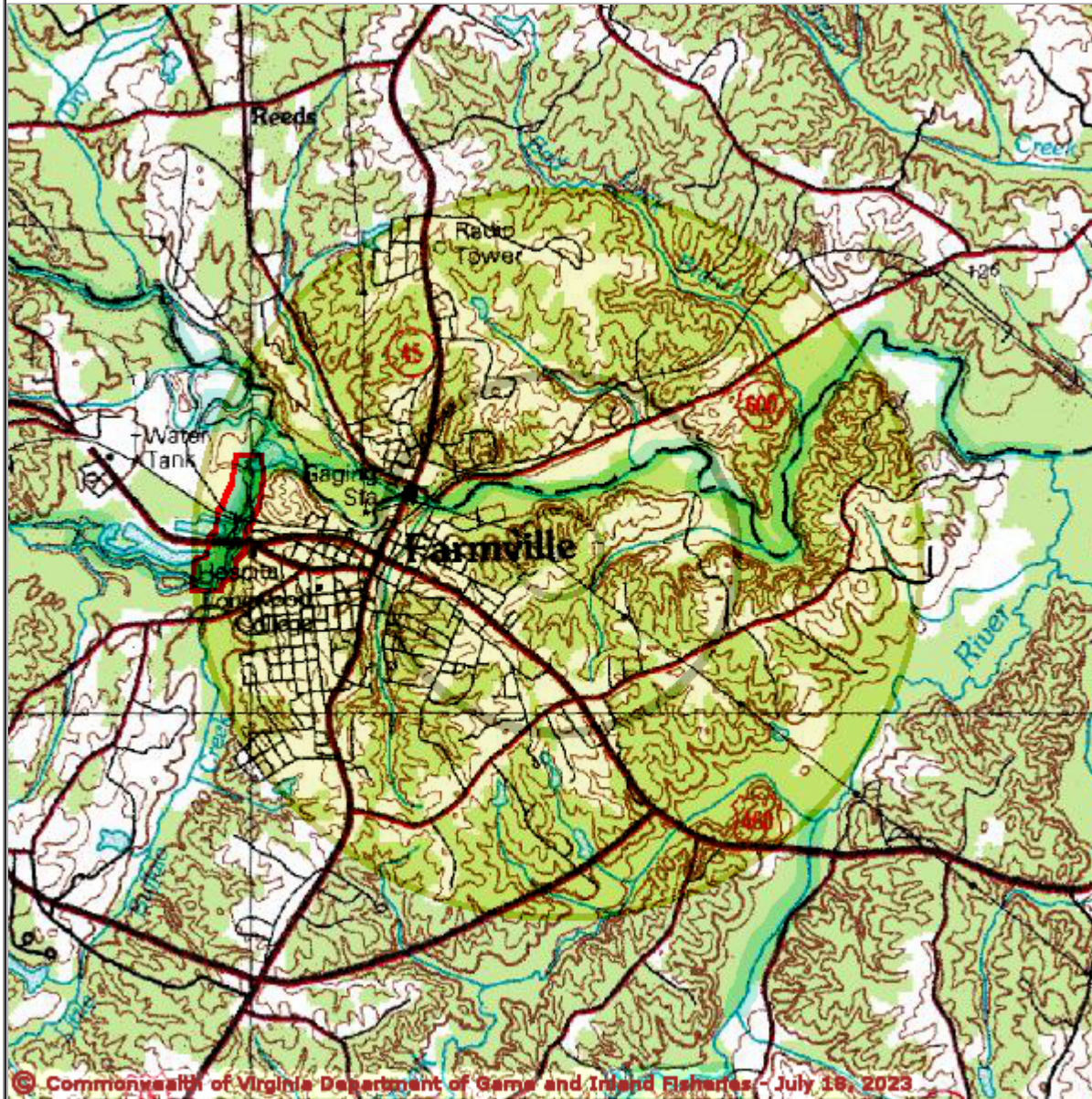
Map Scale



Screen Size

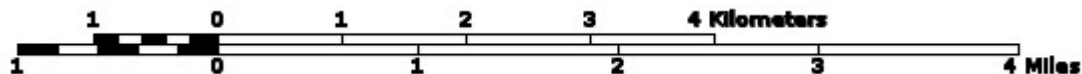


[Help](#)



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Map Overlay Legend



Point of Search 37,18,07.1 -78,22,27.1

Map Location 37,18,07.1 -78,22,27.1

- Select **Coordinate System**:
- Degrees, Minutes, Seconds Latitude - Longitude
 - Decimal Degrees Latitude - Longitude
 - Meters UTM NAD83 East North Zone
 - Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](https://www.microsoft.com/terraserver-usa) for details)

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map assembled 2023-07-18 14:34:50 (qa/qc March 21, 2016 12:20 - tn=1515415.1 dist=3218 I)
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Tier Reaches Group Buffalo Creek (20802072)

37,18,07.1 -78,22,27.1
is the Search Point

Display at center | Item Location is not at map center

Show Position Rings

Yes No

1 mile and 1/4 mile at the Search Point

Show Search Area

Yes No

2 Search distance miles radius

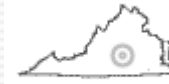
Search Point is at map center

Base Map [Choices](#)

Topography

Map Overlay [Choices](#)

Current List: Position, Search, Observation

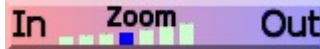


[Refresh Browser Page](#)

Map Click



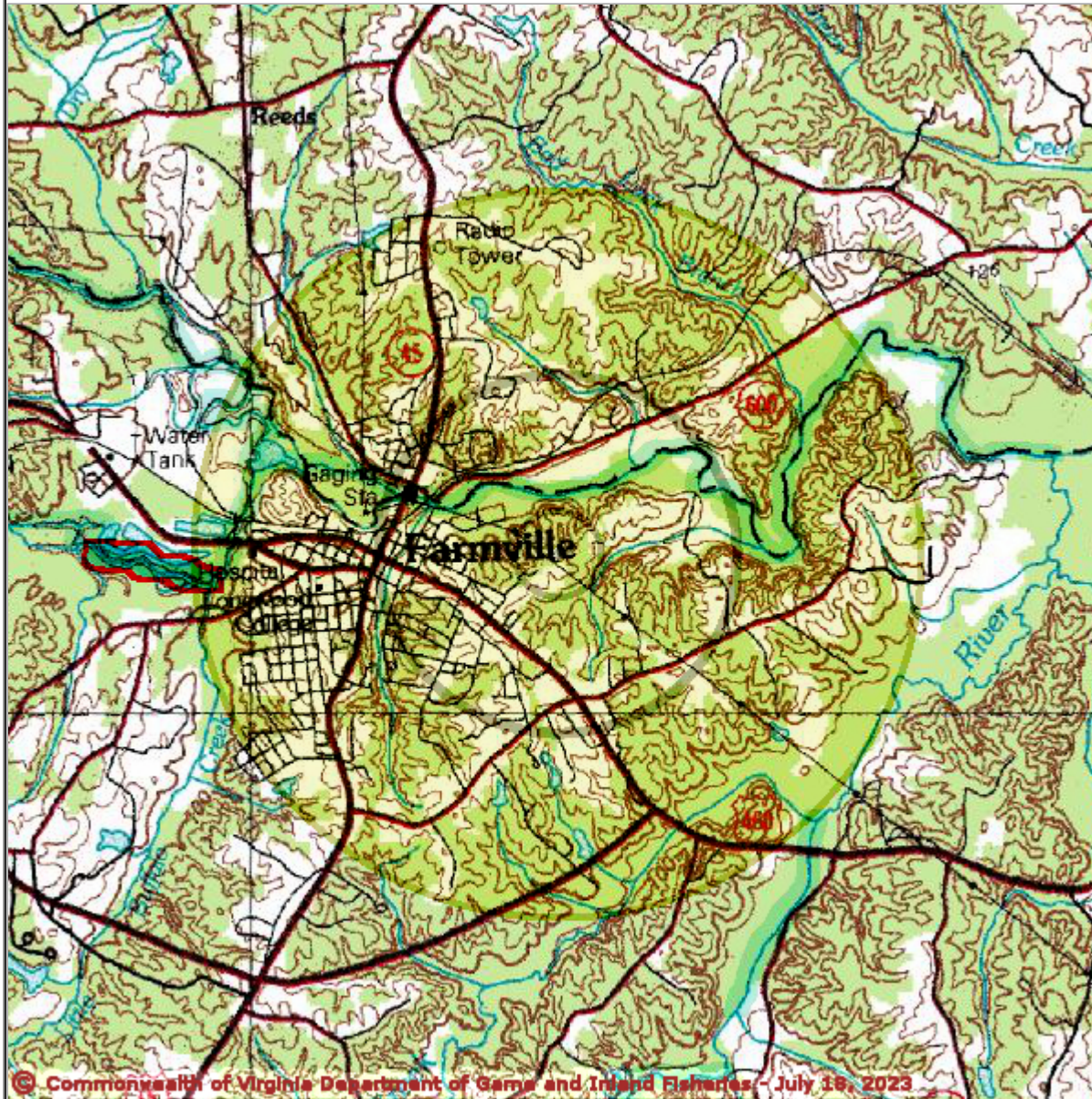
Map Scale



Screen Size





[Help](#)



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Map Overlay Legend

-  **Position Rings**
1 mile and 1/4 mile at the Search Point
-  **2 mile radius Search Area**
-  **Data Observation Site**



Point of Search 37,18,07.1 -78,22,27.1

Map Location 37,18,07.1 -78,22,27.1

- Select **Coordinate System**:
- Degrees, Minutes, Seconds Latitude - Longitude
 - Decimal Degrees Latitude - Longitude
 - Meters UTM NAD83 East North Zone
 - Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see [Microsoft terraserver-usa.com](https://www.microsoft.com/terraserver-usa) for details)

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map assembled 2023-07-18 14:35:11 (qa/qc March 21, 2016 12:20 - tn=1515415.1 dist=3218 I)

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vafwis_tables.dbo.cvTierReaches where SEG_ID in ('208020722417')
```

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Virginia Department of Natural and Historic Resources
Director



Virginia Department of Operations
Deputy Director for
Dam Safety,
Floodplain Management and
Soil and Water Conservation

Virginia Department of Natural and Historic Resources
Chief Deputy Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Virginia Department of Operations
Deputy Director for
Administration and Finance

Virginia 2023

Virginia Department of Natural and Historic Resources
2000 George Washington Parkway
Arlington, VA 22204

Phone: 703.230.6216 Fax: 703.230.6216

Virginia Department of Natural and Historic Resources

The Virginia Department of Natural and Historic Resources (DNR) is a state agency that manages the state's natural and historic resources. The DNR is responsible for the protection and management of the state's parks, forests, and historic sites. The DNR also manages the state's water resources and is responsible for the regulation of the state's waterways.

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CCB MAPPING PORTAL

[Help / FAQ](#)

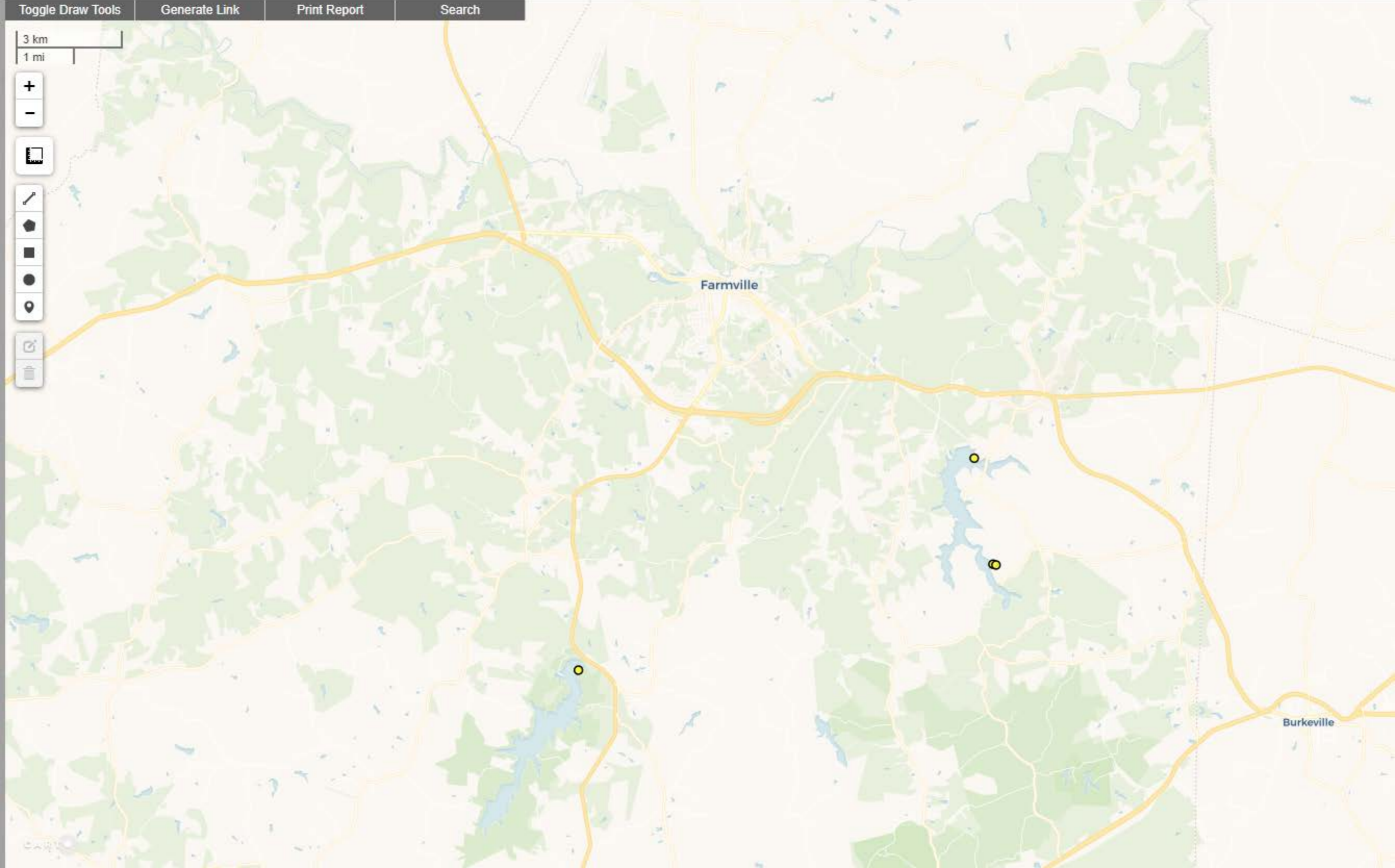
Toggle Draw Tools

Generate Link

Print Report

Search

3 km
1 mi

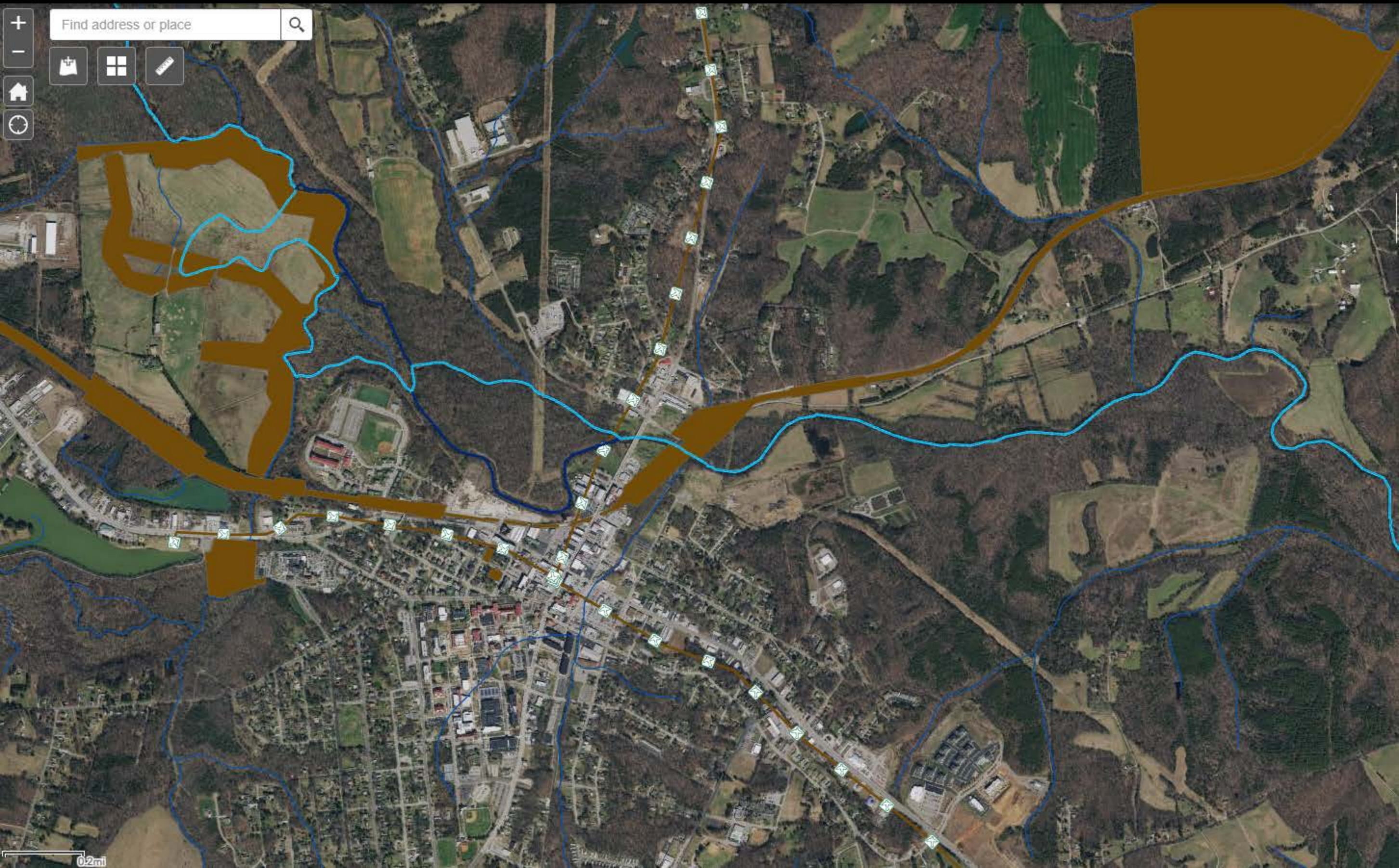




Find address or place

+
-
Home
Refresh

Map
Layers
Measure



0.2mi

APPENDIX C

PHOTOGRAPHS



Engineering & Design

Corporate Headquarters:

331 Newman Springs Road, Suite 203
Red Bank, NJ 07701
Main: 877 627 9772
Colliersengineering.com

SITE PHOTOGRAPHS

PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 1

Description:

Dirt road entrance.



Photo No. 2

Description:

Typical forested conditions.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 3

Description:
Typical forested conditions.



Photo No. 4

Description:
Perennial stream.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 5

Description:
Perennial stream.



Photo No. 6

Description:
Typical forested conditions.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 7

Description:
Perennial stream.



Photo No. 8

Description:
Perennial stream.





Engineering & Design

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SITE PHOTOGRAPHS

PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 9

Description:

Intermittent stream and wetland complex in the background. Underground utility easement in foreground.



Photo No. 10

Description:

Wetland.





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& Design

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SITE PHOTOGRAPHS

PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 11

Description:
Intermittent stream.



Photo No. 12

Description:
Intermittent stream.





Engineering & Design

Corporate Headquarters:

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SITE PHOTOGRAPHS

PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 13

Description:
Perennial stream.



Photo No. 14

Description:
Typical forested conditions.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 15

Description:
Perennial stream.



Photo No. 16

Description:
Intermittent stream.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 17

Description:
Intermittent stream.



Photo No. 18

Description:
Intermittent stream.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 19

Description:
Intermittent stream.



Photo No. 20

Description:
Intermittent stream
within aerial utility
easement.





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SITE PHOTOGRAPHS

PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 21

Description:
Aerial utility easement.



Photo No. 22

Description:
Aerial utility easement.





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SITE PHOTOGRAPHS

PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 23

Description:
Aerial utility easement.



Photo No. 24

Description:
Intermittent stream.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 25

Description:
Intermittent stream.



Photo No. 26

Description:
Wetland.





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SITE PHOTOGRAPHS

PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 27

Description:
Wetland.



Photo No. 28

Description:
Typical forested conditions.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 29

Description:
Wetland and stream
complex.



Photo No. 30

Description:
Wetland and stream
complex.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 31

Description:
Perennial stream.



Photo No. 32

Description:
Perennial stream.



PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 33

Description:

On the banks of perennial stream facing wetland in the background.



Photo No. 34

Description:

Typical forested conditions.





Engineering & Design

Corporate Headquarters:

331 Newman Springs Road, Suite 203
Red Bank, NJ 07701
Main: 877 627 9772
Colliersengineering.com

SITE PHOTOGRAPHS

PROJECT NAME:
HIGH BRIDGE SOLAR, LLC

SITE LOCATION:
FARMVILLE, VIRGINIA

PROJECT No.:
23006216A

Photo No. 35

Description:
Typical forested conditions.



APPENDIX D

PROPOSED PHOTOVOLTAIC ARRAY



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Infrastructure • Geotechnical/Environmental • Telecommunications • Utilities/Energy*

23006216A- HIGH BRIDGE SOLAR LLC

BIOLOGICAL ANALYSIS

Prepared using IPaC

Generated by Sean Stanton (sean.stanton@collierseng.com)

August 28, 2023

The purpose of this document is to assess the effects of the proposed project and determine whether the project may affect any federally threatened, endangered, proposed, or candidate species. If appropriate for the project, this document may be used as a biological assessment (BA), as it is prepared in accordance with legal requirements set forth under [Section 7 of the Endangered Species Act \(16 U.S.C. 1536 \(c\)\)](#).

In this document, any data provided by U.S. Fish and Wildlife Service is based on data as of August 28, 2023.

Prepared using IPaC version 6.96.0-rc4

23006216A- HIGH BRIDGE SOLAR LLC BIOLOGICAL ASSESSMENT

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1 DESCRIPTION OF THE ACTION

1.1 PROJECT NAME

23006216A- High Bridge Solar LLC

1.2 EXECUTIVE SUMMARY

On behalf of High Bridge Solar, LLC, Colliers Engineering & Design, Inc. (DBA Maser Consulting) (CED) conducted a Threatened and Endangered Species Habitat Assessment for the High Bridge Solar, LLC located at the terminus of Hylawn Avenue in Farmville, Virginia within Prince Edward County (hereinafter referred to as “Subject Property”). The Subject Property is comprised of one (1) parcel of land that is further described as Prince Edward County Parcel Information Number (PIN): 024-A-6. The Subject Property is approximately 140 acres in size and located at latitudinal coordinates 37.301770 N and longitudinal coordinates -78.373710 W. The Subject Property is located approximately 1-mile east of Farmville, Virginia and 12-miles northwest of Burkeville, Virginia. The Subject Property is being considered for solar farm development. A review of publicly available resources was performed to determine the potential habitat of federally protected threatened and endangered species, and if present, the extent of these areas within the Subject Property. In addition, CED conducted field habitat assessments on July 19, 2023 by walking transects on the Subject Property. The objective of the field assessment was to determine the presence of suitable habitat for federally protected species within the Subject Property. CED evaluated, documented, and took pictures of the vegetative community assemblages during field investigations. Species specific presence/absence surveys, migratory bird pre-clearing nest surveys, protection and mitigation measures, or biological findings for threatened and endangered species were not conducted for the following species: Northern Long-eared bat (*Myotis septentrionalis*) and Tricolored bat (*Perimyotis subflavus*). Based on the NHP database, there are no documented occurrences of Northern Long-eared bat or Tricolored bat on the Subject Property or within a 1-mile radius. Based on a review of the Proposed Site Plan (Sheet G-101) for the High Bridge Solar, LLC project (Appendix D), the proposed solar farm development does impact the undeveloped forested areas. Therefore, based on the fact that there is not a known maternity roost or hibernacula within the Subject Property, it is believed that a biological finding of any future project is “May Affect, Not Likely to Adversely Affect” for the Northern Long-eared bat and the Tricolored bat. It should be noted that the Monarch Butterfly (*Dana plexippus*), is also listed for the Subject Property; however, it is a Candidate species and is not afforded any specific legal protection at this time.

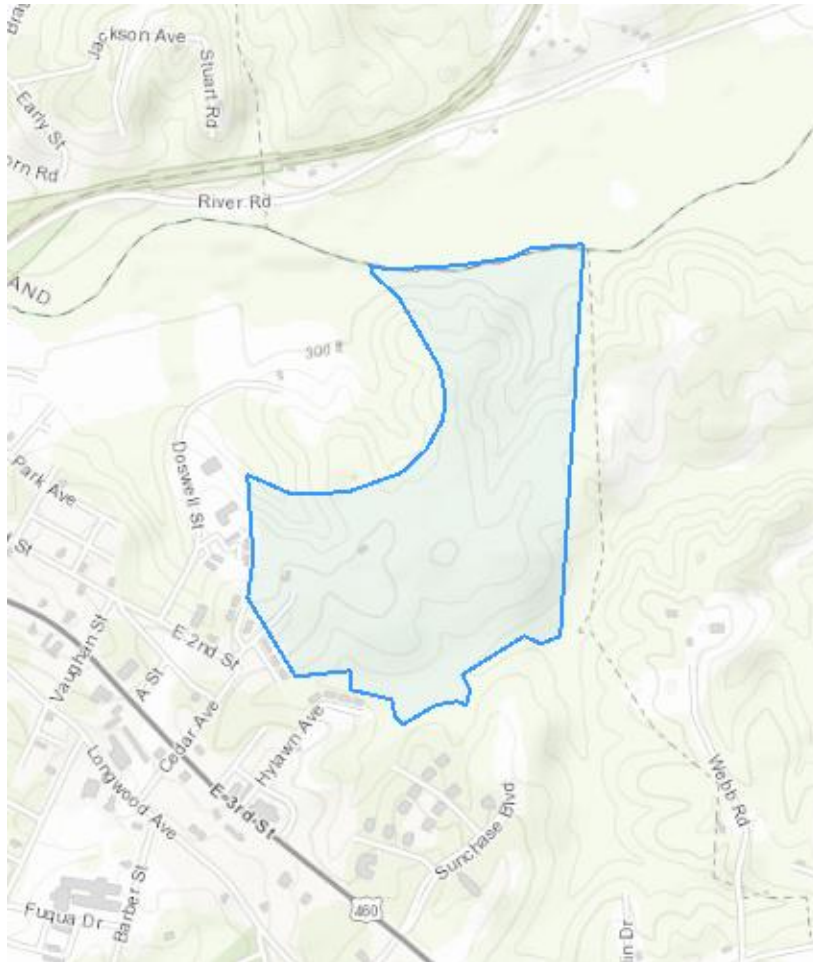
1.3 EFFECT DETERMINATION SUMMARY

SPECIES (COMMON NAME)	SCIENTIFIC NAME	LISTING STATUS	PRESENT IN ACTION AREA	EFFECT DETERMINATION
Green Floater	Lasmigona subviridis	Proposed Threatened	Excluded from analysis	Excluded from analysis
Monarch Butterfly	Danaus plexippus	Candidate	Excluded from analysis	Excluded from analysis
Northern Long-eared Bat†. This species or critical habitat is covered by a DKey.	Myotis septentrionalis	Endangered		NLAA
Tricolored Bat	Perimyotis subflavus	Proposed Endangered	Excluded from analysis	Excluded from analysis

† This species or critical habitat is covered by a DKey.

1.4 PROJECT DESCRIPTION

1.4.1 LOCATION



LOCATION

Cumberland and Prince Edward counties, Virginia

1.4.2 DESCRIPTION OF PROJECT HABITAT

The Subject Property contains three (3) major habitat community types: Maintained/Disturbed Areas, Dry-Mesic Oak-Hickory Forest Areas, and Wetland Areas. The Maintained/Disturbed Areas account for approximately 4.87% (6.82-AC) of the Subject Property. The Dry-Mesic Oak-Hickory Forest account for approximately 91.49% (128.08-AC) of the Subject Property. The Wetland Areas account for approximately 3.63% (5.09-AC) of the Subject Property.

1.4.3 PROJECT PROPONENT INFORMATION

Provide information regarding who is proposing to conduct the project, and their contact information. Please provide details on whether there is a Federal nexus.

REQUESTING AGENCY

Colliers Engineering and Design

FULL NAME

Sean Stanton

STREET ADDRESS

2000 Regency Parkway

Suite 295

CITY

Cary

STATE

NC

ZIP

27518

PHONE NUMBER

9843125647

E-MAIL ADDRESS

sean.stanton@collierseng.com

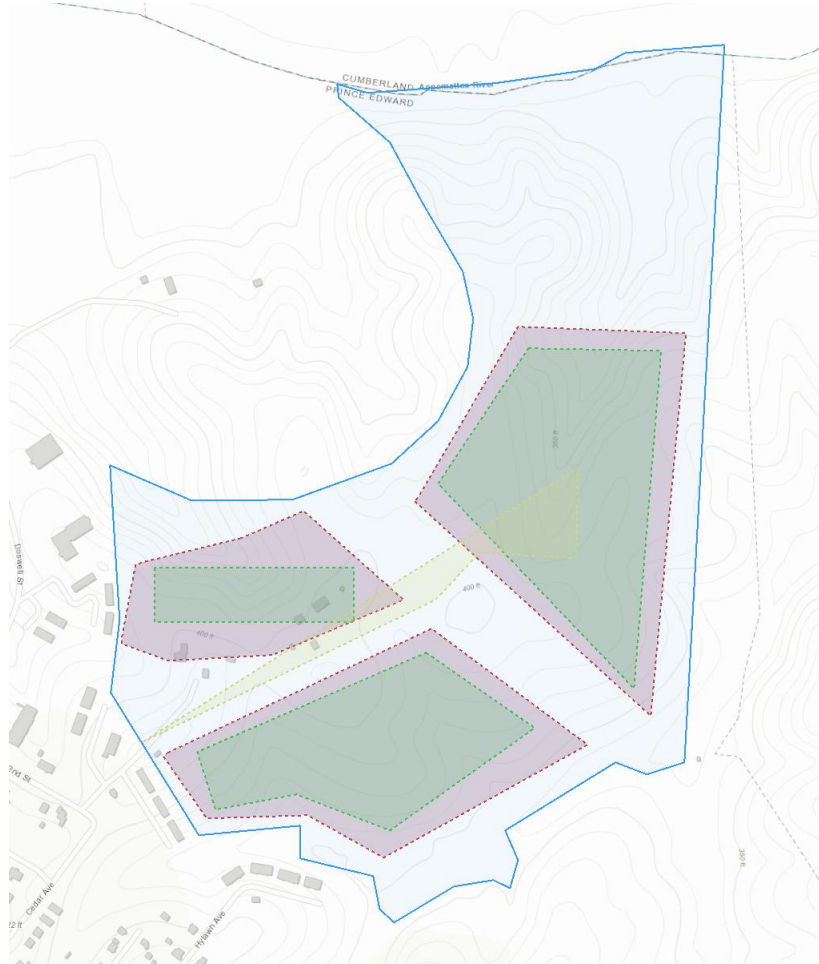
1.4.4 PROJECT PURPOSE

On behalf of High Bridge Solar, LLC, Colliers Engineering & Design, Inc. (DBA Maser Consulting) (CED) conducted a Threatened and Endangered Species Habitat Assessment for the High Bridge Solar, LLC located at the terminus of Hylawn Avenue in Farmville, Virginia within Prince Edward County (hereinafter referred to as “Subject Property”). The Subject Property is comprised of one (1) parcel of land that is further described as Prince Edward County Parcel Information Number (PIN): 024-A-6. The Subject Property is approximately 140 acres in size and located at latitudinal coordinates 37.301770 N and longitudinal coordinates -78.373710 W. The Subject Property is located approximately 1-mile east of Farmville, Virginia and 12-miles northwest of Burkeville, Virginia. The Subject Property is being considered for solar farm development. A review of publicly available resources was performed to determine the potential habitat of federally protected threatened and endangered species, and if present, the extent of these areas within the Subject Property. In addition, CED conducted field habitat assessments on July 19, 2023 by walking transects on the Subject Property. The objective of the field assessment was to determine the presence of suitable habitat for federally protected species within the Subject Property. CED evaluated, documented, and took pictures of the vegetative community assemblages during field investigations. Species specific presence/absence surveys, migratory bird pre-clearing nest surveys, protection and mitigation measures, or biological findings for threatened and endangered species were not conducted for the following species: Northern Long-eared bat (*Myotis septentrionalis*) and Tricolored bat (*Perimyotis subflavus*). Based on the NHP database, there are no documented occurrences of Northern Long-eared bat or Tricolored bat on the Subject Property or within a 1-mile radius. Based on a review of the Proposed Site Plan (Sheet G-101) for the High Bridge Solar, LLC project (Appendix D), the proposed solar farm development does impact the undeveloped forested areas. Therefore, based on the fact that there is not a known maternity roost or hibernacula within the Subject Property, it is believed that a biological finding of any future project is “May Affect, Not Likely to Adversely Affect” for the Northern Long-eared bat and the Tricolored bat. It should be noted that the Monarch Butterfly (*Dana plexippus*), is also listed for the Subject Property; however, it is a Candidate species and is not afforded any specific legal protection at this time.






1.4.5 PROJECT TYPE AND DECONSTRUCTION

This project is a solar power plant construction project.

1.4.5.1 PROJECT MAP



LEGEND

-  Project footprint
-  Access Road: Access road construction
-  Cells: Install photovoltaic panels
-  Fence: Install permanent fence
-  Structure: Photovoltaic solar power plant (structure)

1.4.5.2 PHOTOVOLTAIC SOLAR POWER PLANT

STRUCTURE COMPLETION DATE

December 01, 2024

REMOVAL/DECOMMISSION DATE (IF APPLICABLE)

December 01, 2054

STRESSORS

This activity is not expected to have any impact on the environment.

DESCRIPTION

See attached report

1.4.5.3 ACCESS ROAD CONSTRUCTION

ACTIVITY START DATE

December 01, 2024

ACTIVITY END DATE

Unspecified

STRESSORS

This activity is not expected to have any impact on the environment.

DESCRIPTION

See attached report

1.4.5.4 INSTALL PERMANENT FENCE

ACTIVITY START DATE

December 01, 2024

ACTIVITY END DATE

Unspecified

STRESSORS

This activity is not expected to have any impact on the environment.

DESCRIPTION

See attached report

1.4.5.5 INSTALL PHOTOVOLTAIC PANELS

ACTIVITY START DATE

December 01, 2024

ACTIVITY END DATE

Unspecified

STRESSORS

This activity is not expected to have any impact on the environment.

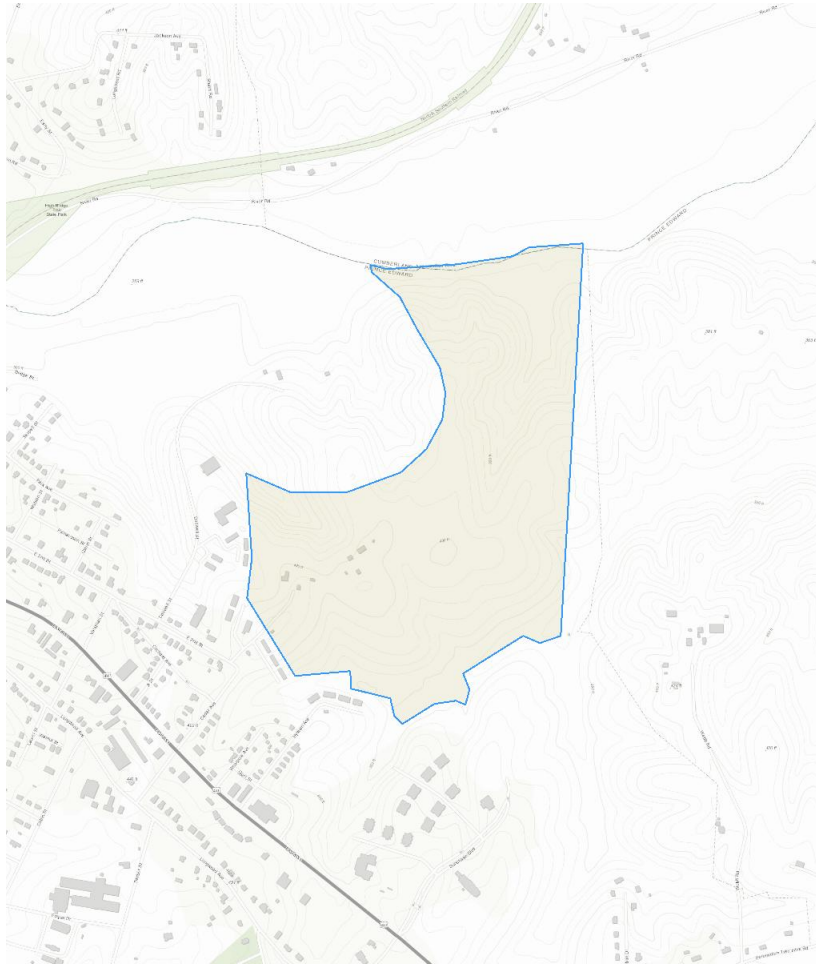
DESCRIPTION

See attached report



1.4.6 ANTICIPATED ENVIRONMENTAL STRESSORS

Describe the anticipated effects of your proposed project on the aspects of the land, air and water that will occur due to the activities above. These should be based on the activity deconstructions done in the previous section and will be used to inform the action area.

1.5 ACTION AREA



LEGEND

-  Project footprint
-  Stressor location

1.6 CONSERVATION MEASURES

Describe any proposed measures being implemented as part of the project that are designed to reduce the impacts to the environment and their resulting effects to listed species. To avoid extra verbiage, don't list measures that have no relevance to the species being analyzed.

No conservation measures have been selected for this project.

1.7 PRIOR CONSULTATION HISTORY

None Known

1.8 OTHER AGENCY PARTNERS AND INTERESTED PARTIES

High Bridge Solar, LLC- 19890 State Line Road South Bend, Indiana 46637

1.9 OTHER REPORTS AND HELPFUL INFORMATION

RELEVANT DOCUMENTATION

- [23006216A High Bridge Solar LLC - Threatened and Endangered Species Review](#)
- [7-18-23 Soil Report](#)
- [23006216A High Bridge Solar LLC - Wetland Delineation Report](#)

2 SPECIES EFFECTS ANALYSIS

This section describes, species by species, the effects of the proposed action on listed, proposed, and candidate species, and the habitat on which they depend. In this document, effects are broken down as direct interactions (something happening directly to the species) or indirect interactions (something happening to the environment on which a species depends that could then result in effects to the species).

These interactions encompass effects that occur both during project construction and those which could be ongoing after the project is finished. All effects, however, should be considered, including effects from direct and indirect interactions and cumulative effects.

2.1 GREEN FLOATER

This species has been excluded from analysis in this environmental review document.

JUSTIFICATION FOR EXCLUSION

Proposed species are not required to be analyzed for consultation. Should this species become further elevated, survey and habitat assessments will be conducted.

2.2 MONARCH BUTTERFLY

This species has been excluded from analysis in this environmental review document.

JUSTIFICATION FOR EXCLUSION

Candidate species are not required to be analyzed for consultation. Should this species become further elevated, survey and habitat assessments will be conducted.

2.3 TRICOLORED BAT

This species has been excluded from analysis in this environmental review document.

RELEVANT DOCUMENTATION

- [23006216A High Bridge Solar LLC - Threatened and Endangered Species Review](#)

JUSTIFICATION FOR EXCLUSION

Proposed species are not required to be analyzed for consultation.

3 CRITICAL HABITAT EFFECTS ANALYSIS

No critical habitats intersect with the project action area.

4 SUMMARY DISCUSSION AND CONCLUSION

4.1 SUMMARY DISCUSSION

Based upon the results of this evaluation, the primary federal species to be of regulatory concern for the High Bridge Solar, LLC project include: (1) Northern Long-eared Bat and (2) Tricolored Bat. The monarch butterfly, is also listed; however, is a Candidate species and is not afforded any specific legal protection at this time. These species were identified based on review of the USFWS county list of protected species for Prince Edward County, Virginia and a refined USFWS IPAC database search of the High Bridge Solar, LLC project. In addition, a formal request was submitted to NHP requesting information of rare species, important natural communities, natural areas, and/or conservation/managed areas that are within both the Subject Property and a one-mile radius of the Subject Property. A summary of findings and biological findings for the High Bridge Solar, LLC is provided in the attached report

4.2 CONCLUSION

Based upon the results of this evaluation, the primary federal species to be of regulatory concern for the High Bridge Solar, LLC project include: (1) Northern Long-eared Bat and (2) Tricolored Bat. The monarch butterfly, is also listed; however, is a Candidate species and is not afforded any specific legal protection at this time. These species were identified based on review of the USFWS county list of protected species for Prince Edward County, Virginia and a refined USFWS IPAC database search of the High Bridge Solar, LLC project. In addition, a formal request was submitted to NHP requesting information of rare species, important natural communities, natural areas, and/or conservation/managed areas that are within both the Subject Property and a one-mile radius of the Subject Property. A summary of findings and biological findings for the High Bridge Solar, LLC is provided in the attached report.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project Code: 2023-0105474
Project Name: 23006216A- High Bridge Solar LLC

August 28, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office

6669 Short Lane

Gloucester, VA 23061-4410

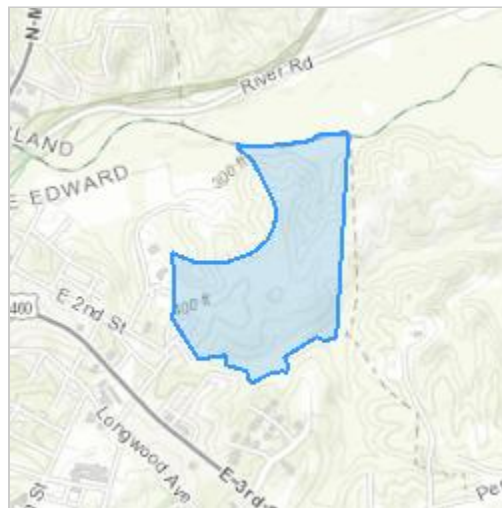
(804) 693-6694

PROJECT SUMMARY

Project Code: 2023-0105474
Project Name: 23006216A- High Bridge Solar LLC
Project Type: Power Gen - Solar
Project Description: On behalf of High Bridge Solar, LLC, Colliers Engineering & Design, Inc. (DBA Maser Consulting) (CED) conducted a Threatened and Endangered Species Habitat Assessment for the High Bridge Solar, LLC project located at the terminus of Hylawn Avenue in Farmville, Virginia within Prince Edward County (hereinafter referred to as “Subject Property”). The Subject Property is comprised of one (1) parcels of land that are further described as Prince Edward County Parcel Information Number (PIN):024-A-6. The Subject Property is approximately 140 acres in size and located at latitudinal coordinates 37.301770 N and longitudinal coordinates -78.373710 W. The Subject Property is located approximately 1.5-miles west-southwest of Farmville, Virginia and 2.5-miles east-northeast of Fairfield. The Subject Property is being considered for solar farm development.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.30261585,-78.37390986195115,14z>



Counties: Cumberland and Prince Edward counties, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [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.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

CLAMS

NAME	STATUS
Green Floater <i>Lasmigona subviridis</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/7541	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

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 OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats 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.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

MIGRATORY BIRD INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

MIGRATORY BIRDS FAQ

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.

IPAC USER CONTACT INFORMATION

Agency: Colliers Engineering and Design
Name: Sean Stanton
Address: 2000 Regency Parkway
Address Line 2: Suite 295
City: Cary
State: NC
Zip: 27518
Email: sean.stanton@collierseng.com
Phone: 9843125647



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project code: 2023-0105474
Project Name: 23006216A- High Bridge Solar LLC

August 28, 2023

Federal Nexus: no
Federal Action Agency (if applicable):

Subject: Technical assistance for '23006216A- High Bridge Solar LLC'

Dear Sean Stanton:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on August 28, 2023, for '23006216A- High Bridge Solar LLC' (here forward, Project). This project has been assigned Project Code 2023-0105474 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project is not reasonably certain to cause incidental take of the northern long-eared bat. Unless the Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Green Floater *Lasmigona subviridis* Proposed Threatened
- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species and/or critical habitat listed above. Note that if a new species is listed that may be affected by the identified action before it is complete, additional review is recommended to ensure compliance with the Endangered Species Act.

Next Steps

Coordination with the Service is complete. This letter serves as technical assistance. All conservation measures should be implemented as proposed. Thank you for considering federally listed species during your project planning.

We are uncertain where the northern long-eared bat occurs on the landscape outside of known locations. Because of the steep declines in the species and vast amount of available and suitable forest habitat, the presence of suitable forest habitat alone is a far less reliable predictor of their presence. Based on the best available information, most suitable habitat is now expected to be unoccupied. During the interim period, while we are working on potential methods to address this uncertainty, we conclude take is not reasonably certain to occur in areas of suitable habitat where presence has not been documented.

If no changes occur with the Project or there are no updates on listed species, no further consultation/coordination for this project is required for the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place before project implements any changes which are final or commits additional resources.

If you have any questions regarding this letter or need further assistance, please contact the Virginia Ecological Services Field Office and reference Project Code 2023-0105474 associated with this Project.

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

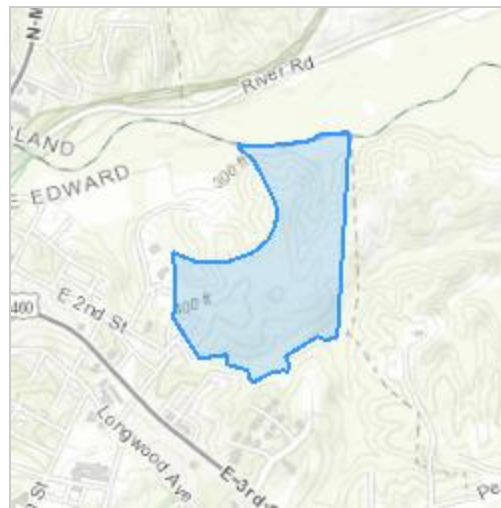
23006216A- High Bridge Solar LLC

2. Description

The following description was provided for the project '23006216A- High Bridge Solar LLC':

On behalf of High Bridge Solar, LLC, Colliers Engineering & Design, Inc. (DBA Maser Consulting) (CED) conducted a Threatened and Endangered Species Habitat Assessment for the High Bridge Solar, LLC project located at the terminus of Hylawn Avenue in Farmville, Virginia within Prince Edward County (hereinafter referred to as "Subject Property"). The Subject Property is comprised of one (1) parcels of land that are further described as Prince Edward County Parcel Information Number (PIN):024-A-6. The Subject Property is approximately 140 acres in size and located at latitudinal coordinates 37.301770 N and longitudinal coordinates -78.373710 W. The Subject Property is located approximately is located approximately 1.5-miles west-southwest of Farmville, Virginia and 2.5-miles east-northeast of Fairfield. The Subject Property is being considered for solar farm development.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.30261585,-78.37390986195115,14z>



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Do you have post-white nose syndrome occurrence data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed acoustic detections. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

No

3. Does any component of the action involve construction or operation of wind turbines?

Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

No

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: Colliers Engineering and Design
Name: Sean Stanton
Address: 2000 Regency Parkway
Address Line 2: Suite 295
City: Cary
State: NC
Zip: 27518
Email: sean.stanton@collierseng.com
Phone: 9843125647



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date:

Self-Certification Letter

Project Name:

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By submitting this letter, in conjunction with your project review package to our office for review, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your determinations. From the date of receipt, our office has 60 days (50 CFR § 402.13(c)(2)) to review your project package. If we do not concur with the Section 7 determination(s) provided or if we have any questions/concerns regarding the information provided, you will be contacted. If you are not contacted during the 60-day review period, this letter and your project review package, complete the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C.4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this self-certification letter to be valid. This letter and the project review package will be maintained in our records.

The ESA Section 7 Determination Table in the enclosed project review package summarizes your ESA analyses and determinations. These analyses resulted in a “no effect” and/or a “may affect, not likely to adversely affect” determination for proposed/listed species and/or proposed/designated critical habitat.


The use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package resulted in reaching the appropriate determinations. Therefore, we concur with the not likely to adversely affect determination(s) for proposed/listed species and proposed/designated critical habitat provided in the ESA Section 7 Determination Table.

Should project plans change, surveys expire, or information on the distribution or status of proposed/listed species and/or proposed/designated critical habitat become available/change, this letter is no longer valid and you must submit an updated project package.

Note that under 50 CFR 402.12(e) of the regulations implementing Section 7 of the ESA, the accuracy of official species lists should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available on our website (<https://www.fws.gov/office/virginia-ecological-services/virginia-field-office-online-review-process>). If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia A. Schulz". The signature is written in a cursive style and is centered on the page.

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

Memorandum

To: Inovateus Solar, Attn: Lauren Parker
From: Sean Stanton
Date: January 10, 2024
Subject: USFWS Comment on High Bridge Solar, LLC T&E Habitat Assessment
Project No.: 23006216A

On August 28, 2023 a request for comment was submitted to the Virginia Field Office for the US Fish and Wildlife Service (USFWS) concerning the Threatened and Endangered Species Habitat Assessment prepared for the High Bridge Solar, LLC Project. On January 3, 2024 the Virginia Field Office for the USFWS responded with the following information:

“To minimize impacts to the tricolored bat should the species be listed while project activities are ongoing, our office recommends adhering to a time-of-year restriction for no tree clearing during the active season. That is, no clearing from 4/1-11/14. Can the project adhere to this?”

A follow up email was sent to the USFWS confirming the High Bridge Solar, LLC Project could adhere to this stipulation; should the tricolored bat be listed while the project activities were ongoing, no tree clearing would take place between April 1 through November 14.

On the afternoon of January 3, 2024, the USFWS concluded the email exchange stating “We have no further comments, questions, or concerns.”.

Therefore, it is Colliers Engineering & Design’s recommendation that should the tricolored bat be listed while the project activities are ongoing, no tree clearing should take place between April 1 through November 14. At the time of this writing, the tricolor bat has not been listed, and therefore tree clearing can be done at any time.

Memorandum

To: Inovateus Solar, Attn: Lauren Parker

From: Sean Stanton

Date: February 1, 2024

Subject: USFWS Comment on High Bridge Solar, LLC T&E Habitat Assessment, Attn: Northern Long-Eared Bat

Project No.: 23006216A

Following the conversation between Inovateus Solar and Colliers Engineering & Design (CED) on January 12, 2024, a request for comment was submitted on January 15, 2024 to the Virginia Field Office for the US Fish and Wildlife Service (USFWS) concerning the recommendations pertaining to the Northern Long-Eared Bat within the High Bridge Solar, LLC Project. Lacking a response, a follow-up request was submitted on January 22, 2024 by CED.

On January 30, 2024 the Virginia Field Office confirmed the same time of year restrictions originally identified in response to the Tricolored Bat are applicable to the Northern Long-Eared Bat (no tree clearing should take place between April 1 through November 14).

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Memorandum

To: Inovateus Solar, Attn: Lauren Parker
From: Sean Stanton
Date: January 19, 2024
Subject: Conversation with Amy Martin
Project No.: 23006216A

On January 16, 2024, at approximately 0915 hours, I called and spoke with Amy Martin (Program Manager with the Wildlife Information & Environmental Services division at the Virginia Department of Wildlife Resources) concerning the buffers associated with the High Bridge Solar, LLC project. The information provided by Ms. Martin is summarized below:

- Threatened and Endangered Waters have a 300-foot buffer.
- Perennial and intermittent tributaries draining to Threatened and Endangered Waters have a 200-foot buffer.
- Perennial and intermittent waters not associated with Threatened and Endangered Waters have a 100-foot buffer.
- Wetlands have a 100-foot buffer.
- Landscape position can change these numbers, but mostly pertains to wetlands and their proximity to Threatened and Endangered Waters.
- These numbers unlikely to be changed if addressed with a site visit. Developers will likely be held responsible for take of Threatened and Endangered species if the buffers were to be disregarded.