1. Wetland Studies and Solutions, Inc. (WSSI) conducted a habitat evaluation for Endangered and Threatened Species (ETS), defined as those species formally listed as endangered or threatened at the state or federal level, within the Loudoun Water Tanks - Rouse Property study area. Additionally, a search for non-listed species and natural communities that are considered rare and whose occurrences are tracked by the Virginia Department of Conservation and Recreation, Division of Natural Heritage (DCR) was performed. Field work was conducted by Richard Davis, WPIT, and Michael Kopansky, WPIT, CAE, on November 15, 2013.

2. An April 2012 WSSI natural color aerial photograph, along with mapped soils information, and topography from Loudoun County Digital Data were used as the base for this attachment. Boundary information was provided by the

3. The Loudoun Water Tanks - Rouse Property study area is situated on approximately 5 acres, located south of the intersection of Red Hill Road (Route 617) and Stone School Lane in Loudoun County, Virginia. The study area is located on a topographic highpoint and is primarily comprised of maintained areas, including an active corn field and a utility easement. A small forest stand, dominated by northern red oak (Quercus rubra), is located along Red Hill Road in the northern boundary of the study area. Diabase-derived soils are present on the entire study area.

4. Prior to conducting field work, WSSI consulted with a number of references to determine what ETS could potentially occur on or within the immediate vicinity of the study area (as provided by the client). These references included the following

A). The Information Planning and Conservation (IPaC) system report from the U.S. Fish and Wildlife Service (USFWS) states that no federally listed species were identified within the vicinity of the Loudoun Water Tanks - Rouse Property study area. Please see Sheet 2 for the results of this database search.

B). A search of the Virginia Department of Game and Inland Fisheries (VDGIF)'s Fish and Wildlife Information Service (FWIS) online database states that no ETS are known or expected to occur within a 2-mile radius of the study area. Please see Sheet 3 for the results of this database search.

C). A November 19, 2013 letter from the DCR indicates the presence of natural heritage resources in the vicinity of the study area. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations. However, DCR states that due to the scope of the activity and the distance to the resources, they do not anticipate that this project will adversely impact these natural heritage resources. Please see Sheet 3 for the DCR letter.

5. The study area and all areas within 100 feet of the study area boundary were inspected for suitable habitat for the ETS determined by the literature and database searches to potentially occur in the vicinity of the study area, as well as for non-listed species and natural communities that are considered rare and whose occurrences are tracked by DCR. While conducting the habitat evaluation, WSSI also searched for individuals of these species in appropriate habitat, if present, and any observations of these species were noted. However, the ETS that potentially occur within the study area exhibit levels of behavior and activity that vary with the seasons, and therefore, these species may not be readily observable throughout the year. For these reasons, all species considered by this report may not have been observable at the time of this investigation, and exhaustive searches for these species were not conducted at the time of this habitat evaluation. More intensive surveys of suitable habitat during the appropriate season would be required to maximize the chance for locating individuals of these species. However, based on the current agricultural use of the study area, no ETS are expected to occur.

6. In summary, no ETS or rare species were observed within the study area. Please refer to the Endangered and Threatened Species Summary Table (Table 1) for an explanation of the potential ETS habitat within the Loudoun Water Tanks - Rouse Property study area.

7. WSSI also evaluated plant communities within the study area to determine if any of the communities meet the descriptions of Northern Hardpan Basic Oak-Hickory Forest or Upland Depression Swamp, both of which are considered rare and of conservation concern to DCR. The Northern Hardpan Basic Oak-Hickory forest is a plant community composed of a relatively specific assemblage of plants. This plant community has a limited geographical distribution and therefore, it is considered rare and of conservation concern to DCR. The composition of the overstory trees varies regionally, but is generally characterized by mixtures of oaks, such as white oak (Quercus alba), northern red oak (Quercus rubra), and black oak (Quercus velutina) and hickories, including pignut hickory (Carya glabra), red hickory (Carya ovalis), and mockernut hickory (Carya alba). In WSSI's opinion, the forested communities within the Loudoun Water Tanks - Rouse Property study area, north of Red Hill Road, do not meet DCR's description of the state-rare Northern Hardpan Basic Oak-Hickory forest.

The Upland Depression Swamp is a forested wetland community composed of a relatively specific assemblage of plants that occur on nearly level Piedmont uplands with clay hardpans or shallow bedrock. Like the Northern Hardpan Basic Oak-Hickory Forest community, no federally or state-listed endangered or threatened plant or animal species are typically associated with this plant community; however, the Upland Depression Swamp community has a limited geographic distribution, and therefore is considered rare and of conservation concern to the DCR. Forested wetlands are not present on the study area. Therefore, no communities within the study area would meet DCR's description of the Upland Depressional Swamp.

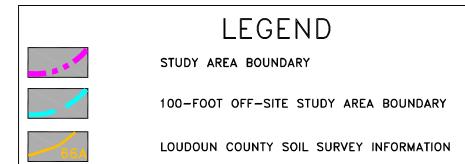
8. WSSI also evaluated the site for several state-rare diabase plant species (none of which are listed as endangered or threatened) that are considered rare by DCR, and for which DCR has recommended surveys and/or expressed concern in northern Virginia in the past. Mapped diabase soils are present throughout the entire study area. The open field that encompasses the majority of the study area is an active corn field. A utility easment transects the northern portion of the study area. This area is dominated by meadow fescue (Schedonorus pratensis) and greasegrass (Tridens flavus) and lacks the associated species found for diabase-associated plants; therefore, state-rare diabase plant species are presumed absent.

Limitations

This study is based on examination of the conditions on the study site at the time of our review and does not address conditions in the future. Such conditions change over time. Therefore, our conclusions may vary from future observations. Our ETS Habitat Evaluation and Rare Species/Community Assessment map has been prepared in accordance with generally accepted guidelines for the conduct of such evaluations. We make no other warranties, either expressed or implied, and our evaluation is not a recommendation to buy, sell or develop the property.

We offer no opinion and do not purport to opine on the possible application of various building codes, zoning ordinances, other land use or platting regulations, environmental or health laws and other similar statutes, laws, ordinances, code and regulations affecting the possible use and occupancy of the Property for the purpose for which it is being used, except as specifically provided above. The opinions set forth above are rendered only and exclusively for the benefit of the addressees and no other parties, successors or assigns. The foregoing opinions are based on applicable laws, ordinances, and regulations in effect as of the date hereof and should not be construed to be an opinion as to the matters set out herein should such laws, ordinances or regulations be modified, repealed or amended.

This document is solely for your benefit and is not to be quoted in whole or in part or otherwise referred to in any statement or document (except for purposes of identification) nor is it to be filed with any governmental agency or other person (except with respect to the proposed rezoning), without the prior written consent of this firm, unless required by law.



-				
MAPPED SOILS *				
Mapping Unit	Soils Series Name	Slope		
Number	John Jehres Mairie	Slobe		
17B	Middleburg silt loam	2-7%		
64C	Legore loam	8-15%		
65B	Montalto silty clay loam	2-7%		
*All soils within the study area area mapped as diabase				

andpiper ST		HABITAT	POTENTIAL FOR OCCURRENCE ON SITE No habitat is present within the study area. No suitable habitat within the study area. The maintained utility easement is too small to provide suitable habitat. Presumed absent.		
		Clear streams in forested floodplains and nearby fields, wet meadows, and farmlands.			
		Grassy pastures, hayfields, and early-stage old fields with medium to tall herbaceous vegetation.			
ad Shrike dovicianus ludovicianus	ST	Open habitats, such as fields, pastures, and early-stage old fields, with scattered trees and shrubs for nesting.	No suitable habitat within the study area. The maintained utility easement is too small to provide suitable habitat. Presumed absent. Additionally, given this species' current range and extremely low populations in Northern Virginia, there is a low probability that this species occurs within the study area.		
: Sparrow mus henslowii	I ST I * · · ·		No suitable habitat within the study area. The maintained utility easement is too small to provide suitable habitat. Presumed absent.		
ater a subviridis	Gravelly and sandy substrates in quiet waters, pools, and eddies of smaller streams.		No habitat is present within the study area.		
÷*	FS	Nests in large trees; forages primarily along rivers and coastlines,	May occur in the vicinity of the study area as a rare migrant or transient. However, there is no suitable breeding, foraging or		

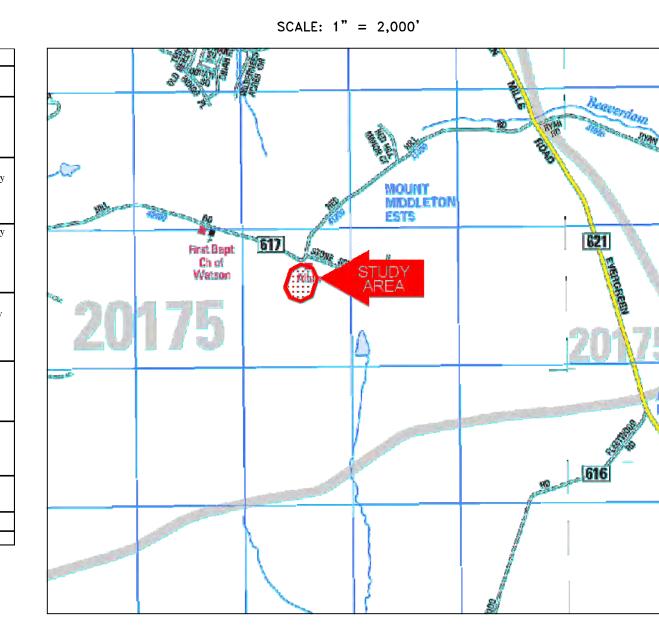
ransient. However, there is no suitable breeding, foraging or

itable habitat within the study area. Presumed absent

sting habitat wihtin the study area.

ST-State Threatened; FS-Federal Species of Concern; CC-Collection Concern *Still protected under the Federal Miratory Bird Treaty Act and the Bald and Golden Eagle Act.

nd at large lakes.



orizontal Datum: VCS NAD 83 HA Vertical Datum: NAVD 88 Boundary and Topo Source: oudoun County Digital Data

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1 of 4

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United States Department of the Interior

FISH AND WILDLIFE SERVICE VIRGINIA ECOLOGICAL SERVICES FIELD OFFICE 6669 SHORT LANE GLOUCESTER, VA 23061 PHONE: (804)693-6694 FAX: (804)693-9032 URL: www.fws.gov/northeast/virginiafield/



Consultation Tracking Number: 05E2VA00-2014-SLI-0140 Project Name: Loudoun Water Tanks-Rouse Property

October 28, 2013

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species 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 seg.).

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

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

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan

(http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and

http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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 Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment





United States Department of Interior Fish and Wildlife Service ject name: Loudoun Water Tanks-Rouse Property

Official Species List

Provided by:

VIRGINIA ECOLOGICAL SERVICES FIELD OFFICE 6669 SHORT LANE

GLOUCESTER, VA 23061 (804) 693-6694

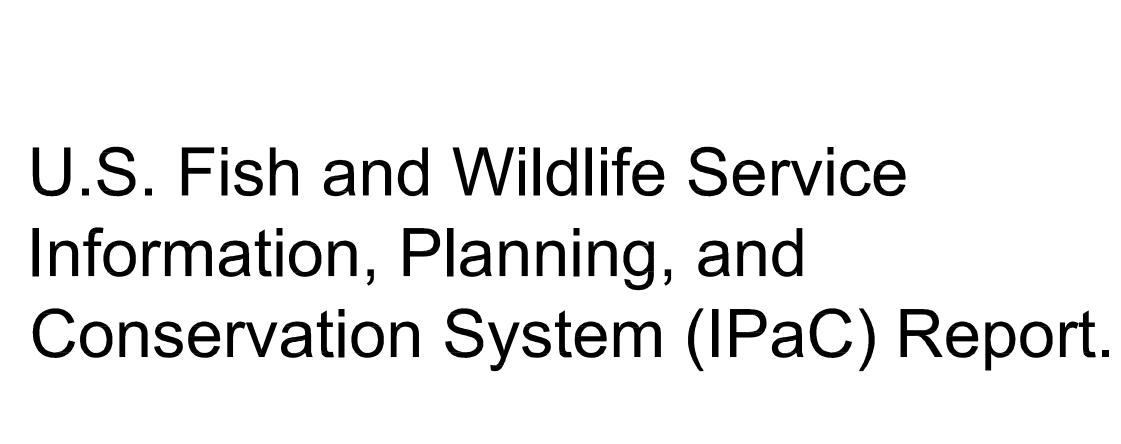
http://www.fws.gov/northeast/virginiafield/

Consultation Tracking Number: 05E2VA00-2014-SLI-0140 Project Type: Development Project Description: WOUS delineation, ETS search



Project Counties: Loudoun, VA

http://ecos.fws.gov/ipac, 10/28/2013 07:14 AM





SPECIES SSESS TENED

> Horizontal Datum: N Vertical Datum: N/A Boundary and Topo Source:

> > RD

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2 of 4

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http://ecos.fws.gov/ipac, 10/28/2013 07:14 AM

VaFWIS Initial Project Assessment Report Compiled on 11/15/2013, 9:06:29 AM

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Known or likely to occur within a 2 mile radius around point 38,59,06.9 77,34,37.9 in 107 Loudoun County, VA

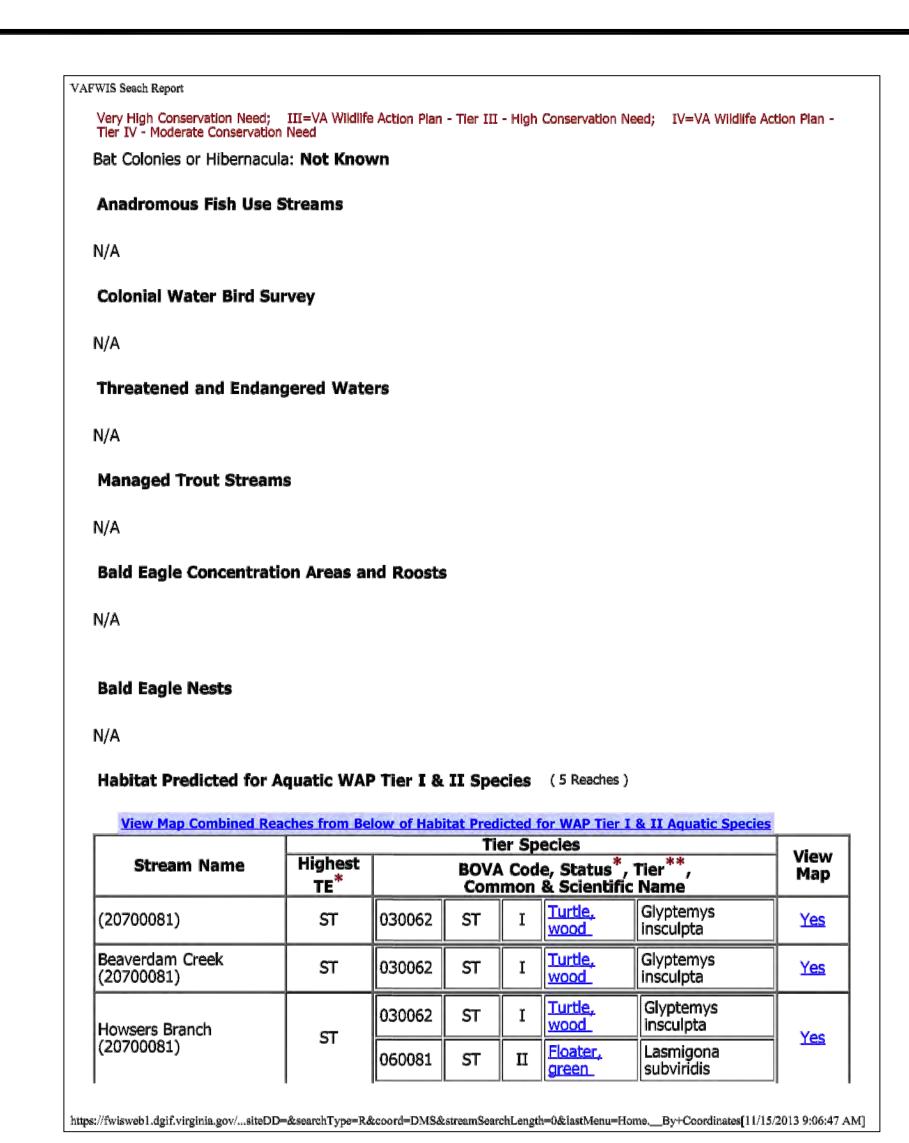
View Map of

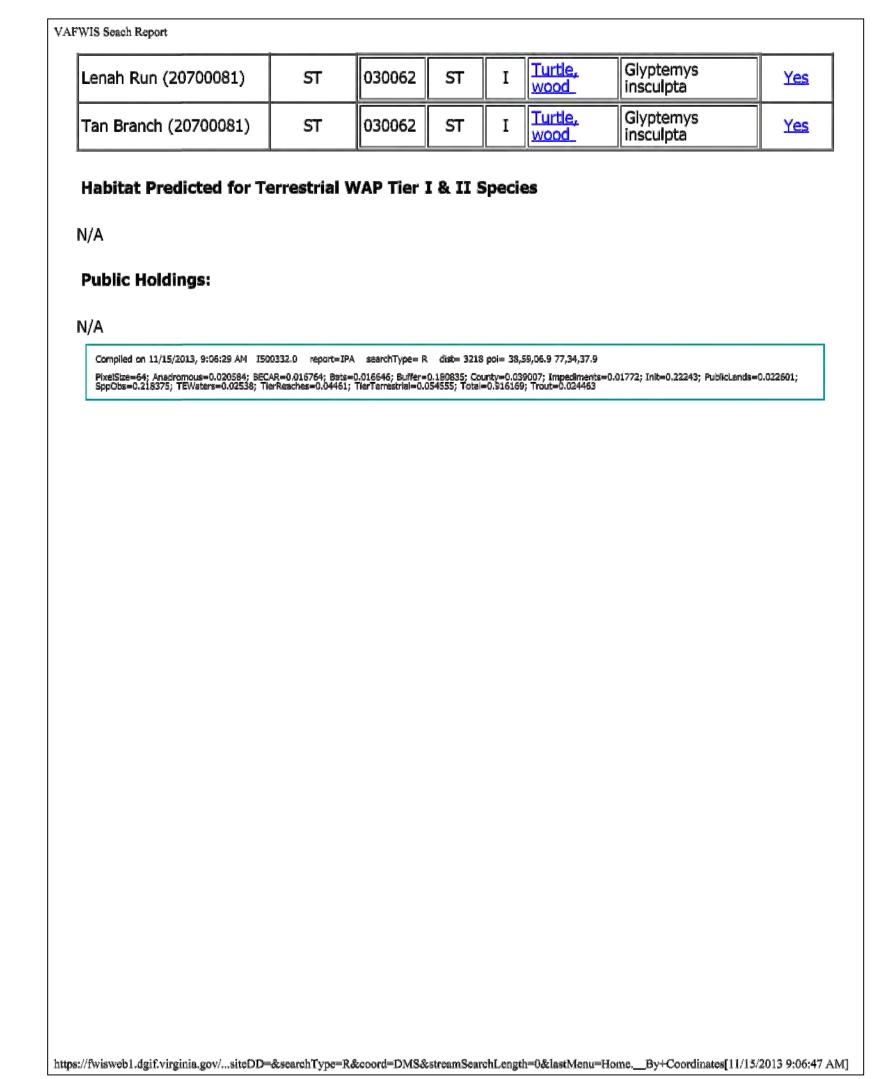
438 Known or Likely Species ordered by Status Concern for Conservation (displaying first 20) (20 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
030062	ST	I	Turtle, wood	Glyptemys insculpta		BOVA, Habitat
040129	ST	I	Sandpiper, upland	Bartramia longicauda		BOVA
040293	ST	I	Shrike, loggerhead	Lanius Iudovicianus		BOVA
040379	ST	I	Sparrow, Henslow's	Ammodramus henslowii		BOVA
060081	ST	II	Floater, green	Lasmigona subviridis		BOVA,Habitat
040292	ST		Shrike, migrant loggerhead	Lanius Iudovicianus migrans		BOVA
100248	FS	I	<u>Fritillary, regal</u>	Speyeria idalia idalia		BOVA
040093	FS	II	Eagle, bald	Haliaeetus leucocephalus		BOVA
100166	FS	II	Skipper, Dotted	Hesperia attalus slossonae		BOVA
030063	CC	III	Turtle, spotted	Clemmys guttata		BOVA
030012	CC	IV	Rattlesnake, timber	Crotalus horridus		BOVA
040372		I	Crossbill, red	Loxia curvirostra		BOVA
040225		I	Sapsucker, yellow- bellied	Sphyrapicus varius		BOVA
040319		I	Warbler, black-throated green	Dendroica virens		BOVA
040306		I	Warbler, golden-winged	Vermivora chrysoptera		BOVA
040052		II	Duck, American black	Anas rubripes		BOVA
040213		II	Owl, northern saw- whet	Aegolius acadicus		BOVA
040105		II	Rail, king	Rallus elegans		BOVA
040320		II	Warbler, cerulean	Dendroica cerulea		BOVA
040266		II	Wren, winter	Troglodytes troglodytes		BOVA

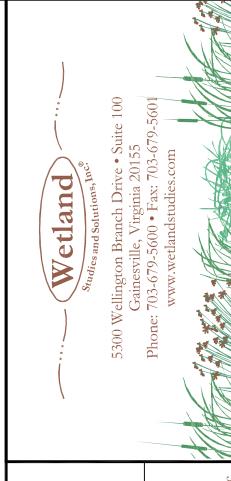
To view All 438 species View 438

https://fwisweb1.dgif.virginia.gov/...siteDD=&searchType=R&coord=DMS&streamSearchLength=0&lastMenu=Home.__By+Coordinates[11/15/2013 9:06:47 AM]





Virginia Department of Game and Inland Fisheries (VDGIF) Virginia Fish and Wildlife Information Service (FWIS) Database Results.



HABITAT EVALUATION AND
RARE SPECIES/COMMUNITY ASSESSM

NE VISIONS	Арр. Ву						
	Rev. App. By By						C.I.: N/A
							C.I.
							SCALE: N/A
NE	No. Date Description						DATE: November 2013
	Date						E: Nov
	No.						DAT
orizontal Datum: N/A							
rti	ertical Datum: N/A						
11111	aundary and Tono Source:						

3 of 4

^{*} FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FC=Federal Candidate; FS=Federal Species of Concern; CC=Collection Concern

^{**} I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II -



David A. Johnson Director

COMMONWEALTH of VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION

600 East Main Street, 24th Floor Richmond, Virginia 23219 (804) 786-6124

November 19, 2013

Michael Kopansky Wetland Studies and Solutions 5300 Wellington Branch Drive, Suite 100 Gainesville, VA 20155

Re: 22309.03, Loudoun Water Tanks - Rouse Property

Dear Mr. Kopansky:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources in the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on statelisted threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

A fee of \$60.00 has been assessed for the service of providing this information. Please find enclosed an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, Department of Conservation and Recreation, Division of Natural Heritage, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact

> State Parks . Nonpoint Pollution Prevention . Outdoor Recreation Planning Natural Heritage . Dam Safety and Floodplain Management . Land Conservation

Gladys Cason (804-367-0909 or Gladys Cason @dgif.virginia.gov). This project is located within 2 miles of a documented occurrence of a state listed animal. Therefore, DCR recommends coordination with VDGIF, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 - 570).

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Project Review Coordinator

Virginia Department of Conservation and Recreation Division of Natural Heritage (DCR) Letter and Study Area Photographs.

STUDY AREA PHOTOGRAPHS LOUDOUN WATER TANKS - ROUSE PROPERTY WSSI #22309.03



1. Looking south along a maintained driveway located on the eastern portion of the study

area. This area does not provide suitable ETS habitat.

2. Looking north at the active agricultural field located in the central portion of the study area. This area does not provide suitable ETS habitat.

STUDY AREA PHOTOGRAPHS LOUDOUN WATER TANKS - ROUSE PROPERTY WSSI #22309.03



Looking northwest at the active agricultural field located in the southern portion of the study area. This area does not provide suitable ETS habitat.



4. Looking northwest along a maintained utility easement located on the northern portion of the study area. This area is dominated by meadow fescue (Schedonorus pratensis) and greasegrass (Tridens flavus) and lacks diabase-associated plant species.

STUDY AREA PHOTOGRAPHS LOUDOUN WATER TANKS - ROUSE PROPERTY



5. Looking east at a forest stand along the northern study area boundary. This tree stand is dominated by northern red oak (Quercus rubra) and does not match DCR's description of



Looking east at a maintained agricultural field in the eastern portion of the study area. This area does not provide suitable habitat for the Henslow's sparrow (Ammodramus henslowii), the upland sand piper (Bartramia longicauda) or the loggerhead shrike (Lanius

Horizontal Datum: N/A

Vertical Datum: N/A Boundary and Topo Source:

RD RD MH 4 of 4

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