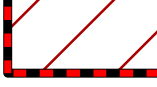









Attachment G – Coastal Avian Protection Zone Analysis

- Coastal Avian Protection Zone
- Bald Eagle Nest Survey Report

Legend

-  Project Limits - 2,673.4 Acres
- Coastal Avian Protection Zones**
-  International Importance, No Survey
-  International Importance, Survey Needed
-  Regional Importance, Survey Needed
-  Regional Importance, No Survey
-  Local Importance, No Survey
-  Unknown Importance, Survey Needed
-  Unknown Importance, Survey Needed (Breeding Eagles)



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WALLER SOLAR
 LANCASTER COUNTY - VIRGINIA

DATE	11/7/2022
PROJECT NUMBER	45249.014
PROJECT NAME	WALLER SOLAR
DESIGNED BY / DRAWN BY	J. FRAZIER

NOTES:
 Project Limits are approximate.
 Coastal Avian Protection Zone data from VCU's Virginia Coastal Zone Management Program for Virginia Only.
 Aerial imagery from ESRI.

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REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION
 COASTAL AVIAN PROTECTION ZONE MAP

↑
Feet

0 1,500 3,000
 PLANS PRINTED AS 11X17 ARE HALF SCALE
 SCALE SHEET NUMBER
 1" = 1,500' 1



COPPERHEAD
ENVIRONMENTAL CONSULTING

**2022 Bald Eagle Nest Survey Report
for the Proposed Waller Solar 1 Project
Lancaster County, VA**

Copperhead Environmental Consulting Inc.
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Paint Lick, KY 40461

9 June 2022

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APPENDICES

Appendix A: Aerial Search Flight Path on the Proposed Waller Solar 1 Project, 29 April 2022

Appendix B: Proposed Waller Solar 1 Project Survey Photographs

INTRODUCTION

Copperhead Environmental Consulting, Inc. (Copperhead) completed an aerial and ground-based bald eagle nest survey for the proposed Waller Solar 1 Project (Project) in Lancaster County, VA (Figure 1). The purpose of the survey was to document bald eagle (*Haliaeetus leucocephalus*) nests inside the Project Boundary and within a 660-foot buffer. Bald eagles are the only eagle species with the potential to nest in the Project area. The survey was completed in accordance with the U.S. Fish and Wildlife Service (USFWS) Eagle Conservation Plan Guidelines (ECPG), Eagle Incidental Take and Eagle Nest Take Regulations (50 CFR 13 and 22; USFWS 2016).

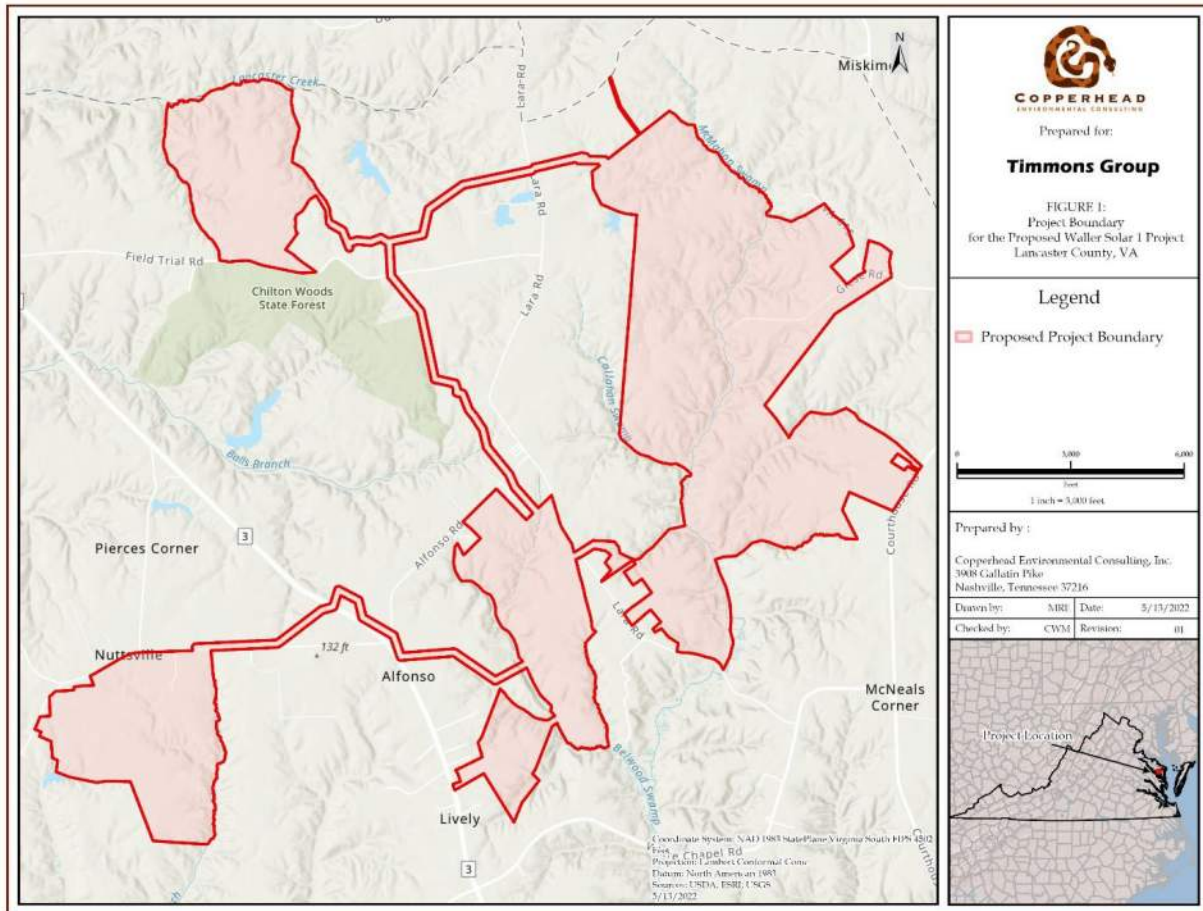


Figure 1. Boundary for the Waller Solar 1 Project, Lancaster County, VA.

PROJECT AREA

Based on the U.S. Geological Survey's National Land Cover Database (NLCD) landcover classification, the predominant land cover/use type within the Project and 660-foot buffer is evergreen forest (31%), which offers potential nesting habitat for bald eagles and mixed forests (23%) which offers more optimal nesting habitat. Land cover/use types generally optimal for eagle and raptor nesting include large trees capable of holding relatively substantial nests (Anthony and Isaacs 1989). Eagles are also known to nest in proximity to open water (Andrew and Mosher 1982, Anthony and Isaacs 1989), which is rare within the surveyed area (< 1%). Suitable bald eagle nesting habitats account for approximately 63% of the combined Project boundary and 660-foot buffer area (Figure 2, Table 1; NLCD 2011; Homer et al. 2020).

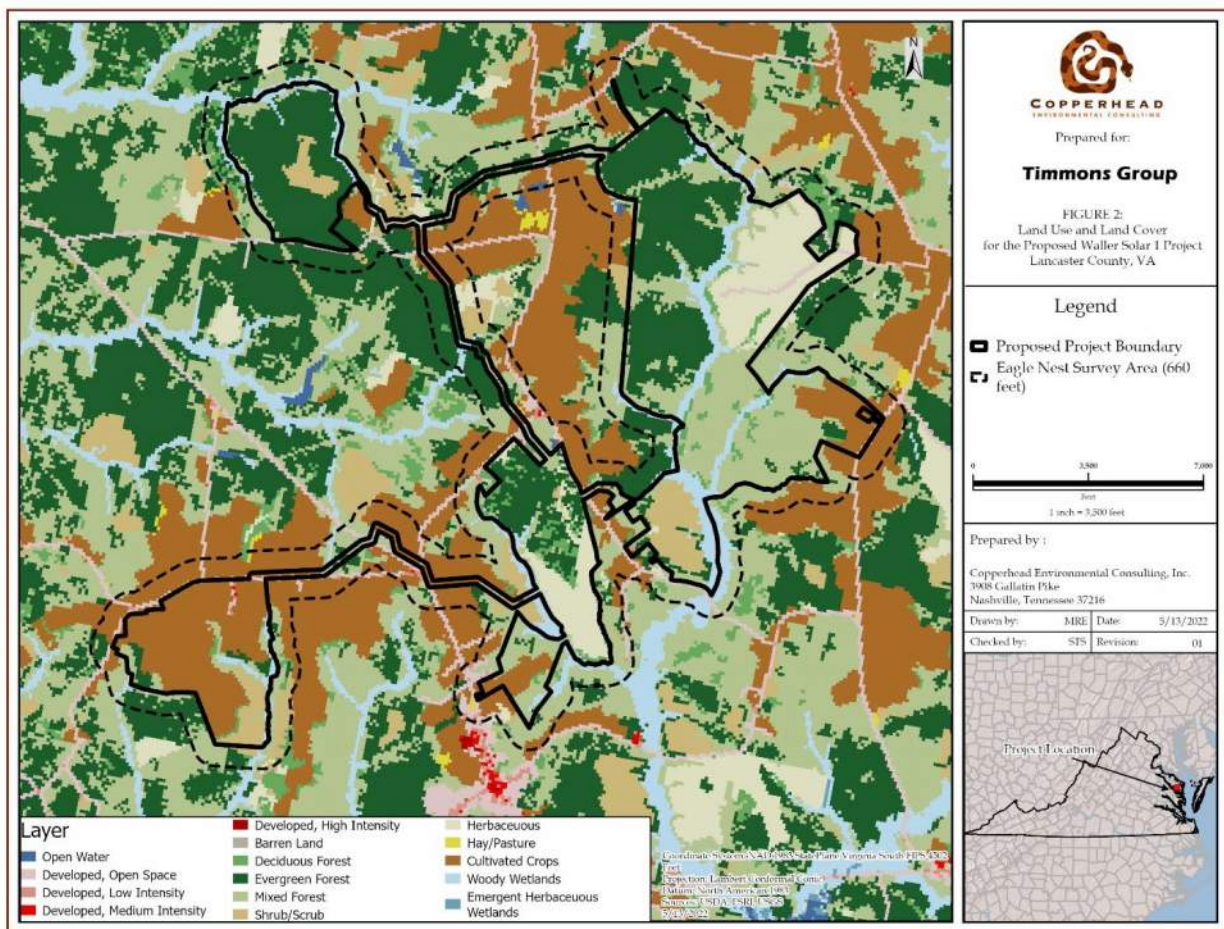


Figure 2. Landcover classifications from the NLCD for the proposed Waller Solar 1 Project and aerial survey buffer.

Table 1. Land use and land cover within the proposed Waller Solar 1 Project and 660-foot buffer.

Land Use/Land Cover Classification	Project (acres)	Project and 660-Foot Buffer(acres)
Cultivated Crops	406	1,107
Evergreen Forest	835	1,324
Woody Wetlands	205	364
Herbaceous	328	372
Mixed Forest	628	1,386
Deciduous Forest	77	154
Developed	40	188
Shrub/Scrub	154	277
Emergent Herbaceous Wetlands	0	1
Hay/Pasture	0	3
Open Water	0	4
Barren Land	0	0

METHODS

Ground Survey

Copperhead completed the ground-based surveys 27 through 29 April 2022. All roads within the Project area and 660-foot buffer (Figure 3) were driven by Copperhead biologists. When biologists approached forested habitat, they slowed or stopped to scan for nests using binoculars. If a nest was located, biologists would collect an estimated GPS location, take photos, and if possible, record the nest condition, status, and activity. While the ground survey focused on searching for stick nest structures; biologists also searched for any bald eagles within the Project and 660-foot buffer.

Aerial Survey

Copperhead completed an aerial bald eagle nest survey on 29 April 2022 from a Cessna 172 aircraft carrying one pilot and two wildlife biologist observers experienced with aerial bald eagle nest searches. The aerial survey focused on locating stick nest structures in suitable bald eagle nesting substrate (e.g., trees, artificial structures, etc.).

To ensure adequate coverage, the aircraft flew 0.5-mile-wide transects over the Project and the 660-foot buffer, with each observer covering approximately a 0.5 mile viewshed. High-quality habitat for bald eagles was surveyed more intensively. Specifically, additional passes or unconventional flight patterns were utilized to maximize visibility in areas deemed potential bald eagle nesting habitat. Flight paths are included in Appendix A. If a nest was found, locations would be recorded using DeLorme mapping software. The following data were collected if

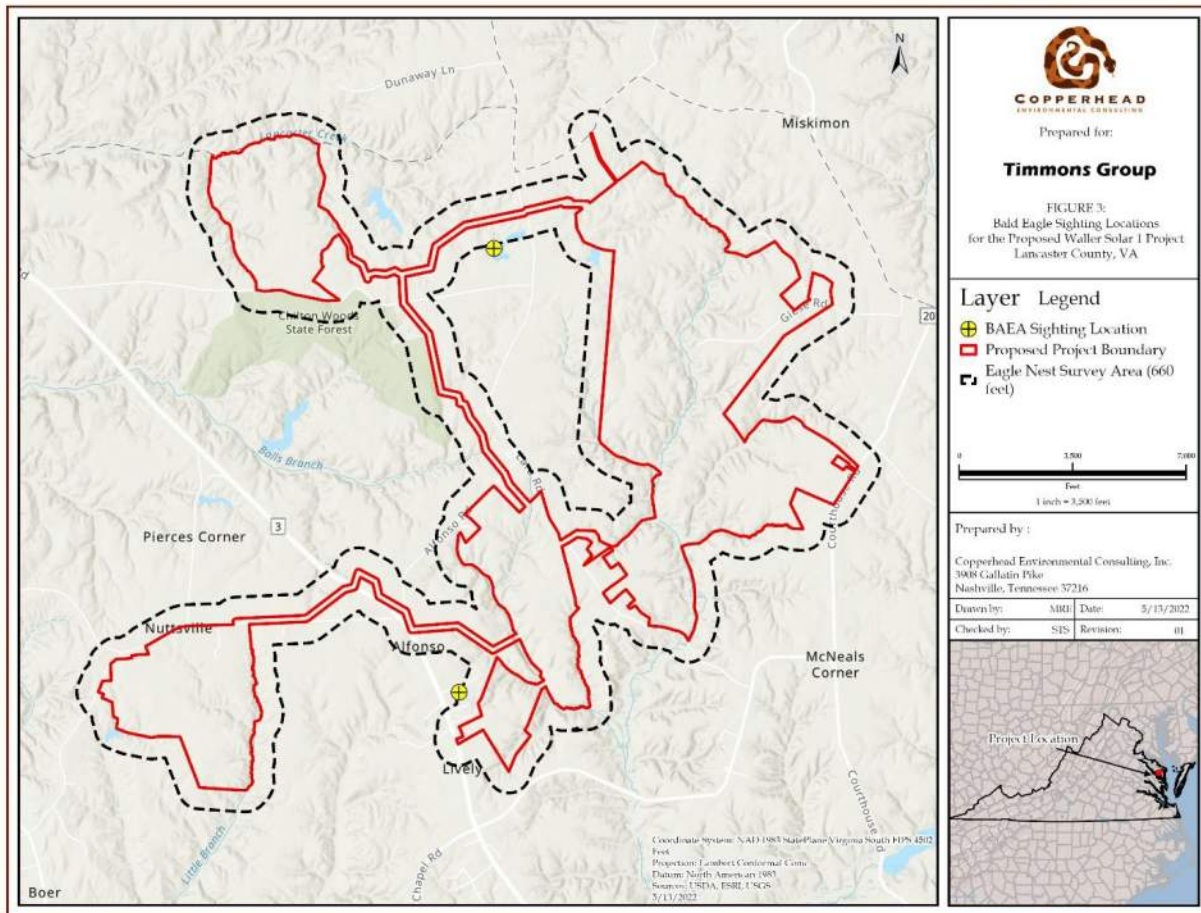


Figure 3. Project boundary and buffer area of the proposed Waller Solar 1 Project 27-29 April 2022.

possible: location, species, and occupancy status. Biologist would collect photos of observed nests, if applicable.

If any nests or bald eagle were observed during the ground survey, the locations of these observations were visited during the aerial survey to collect or confirm nest condition, status, and activity. Additional photos were collected if applicable and biologists would confirm or update GPS locations for accuracy at any nest. Furthermore, high-quality habitat and large wooded areas that could not be thoroughly surveyed during the ground survey were examined more intensively during the aerial survey. If a new nest (i.e., a nest not documented during the ground survey) was located, biologists would record a GPS location, take photos, and recorded the species (if possible), nest condition, occupancy status, and any activity.

If located, eagle nests were classified as “In Use” or “Alternate” consistent with definitions amended from the ECPG and presented in the Eagle Incidental Take and Eagle Nest Take Regulations (50 CFR 13 and 22; USFWS 2016). Under these definitions, an In Use classification

would be applied if eagles were observed displaying courtship or nest building behavior in proximity to a nest, or if any of the following were observed: (1) an adult eagle in an incubating position, (2) eggs, (3) nestlings or fledglings, (4) occurrence of a pair of adult eagles (or, sometimes subadults, e.g., Steenhof et al. 1983) at or near a nest through at least the time incubation normally occurs, (5) a newly constructed or refurbished stick nest in the area where territorial behavior of a raptor had been observed early in the breeding season, or (6) “A recently repaired nest with fresh sticks (clean breaks) or fresh boughs on top, and/or droppings and/or molted feathers on its rim or underneath” (Postupalsky 1974). If no eagles, courtship behavior, or nest-building were observed, and a nest did not appear to have any of the aforementioned use indicators, it would be classified as Alternate.

RESULTS

No bald eagle nests were documented within the Project, or the 660-foot buffer. Three adult bald eagles were located by the ground-based survey team prior to the aerial survey. Photos are included in Appendix B. Additional passes at these locations were made by the aerial team but no nests or bald eagles were noted.

Table 2. Approximate bald eagle sighting locations within the proposed Waller Solar 1 Project and 660-foot buffer, 27-29 April 2022.

ID	Date	# Eagles	Latitude	Longitude	Habitat
BAEA Site 01	4/27/2022	3	37.826846	-76.510611	Pond Edge
BAEA Site 01	4/28/2022	2	37.826846	-76.510611	Pond Edge
BAEA Site 02	4/28/2022	1	37.789311	-76.515323	Ag Field
BAEA Site 01	4/29/2022	1	37.826846	-76.510611	Pond Edge

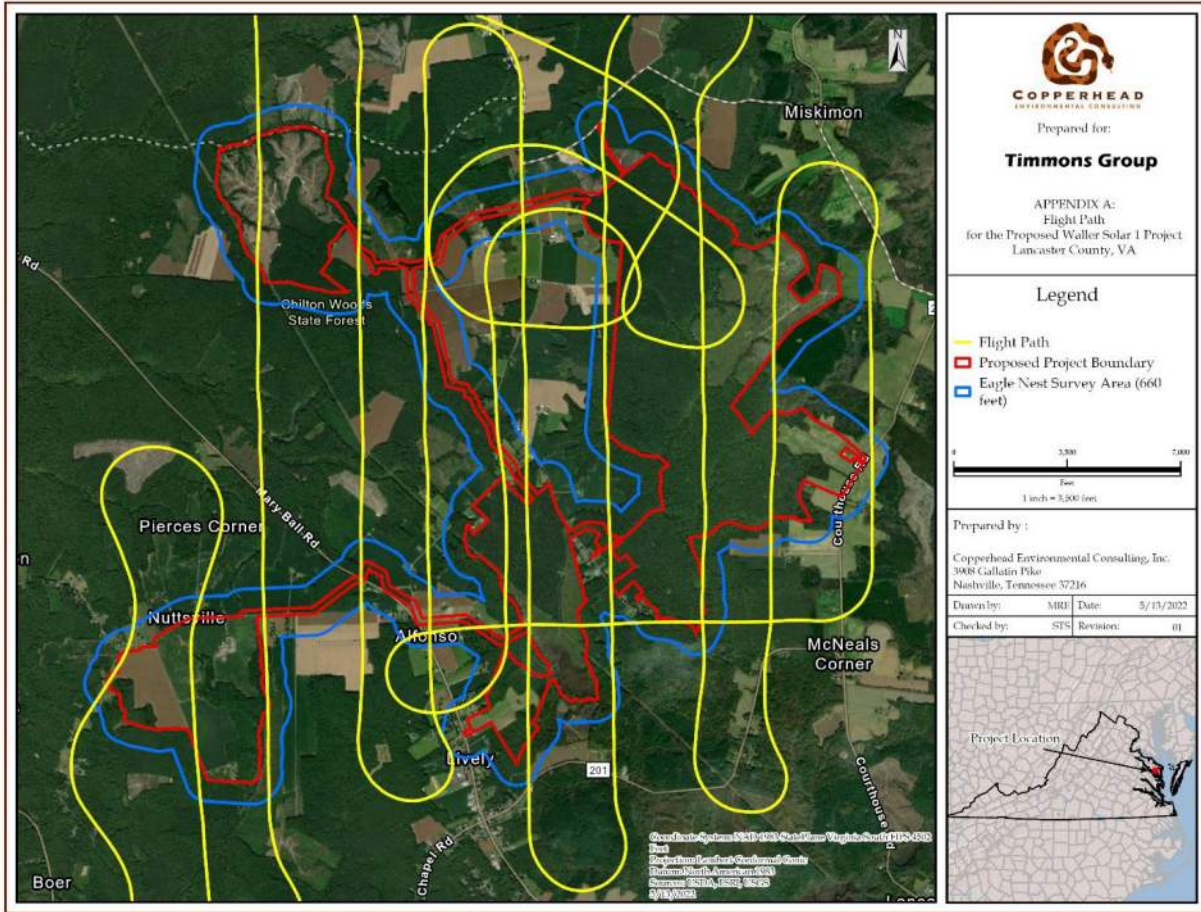
CONCLUSION

No bald eagle or other raptor nests were observed within the Project or 660-foot buffer. Three adult eagles were observed flying or perched at different locations within the 660-foot buffer. Despite the predominantly forested Project area, half of the area consisted of pine plantations of varying age classes, many of which were too young to support bald eagle nests. There were no large bodies of water within the Project or the buffer. The Rappahannock River is located only 1.7 miles from the edge of the Project and a few large ponds as well as Callahan and McMahon Swamps provide limited water resources. Overall nesting habitat for bald eagles within the Project and the buffer was moderate but no bald eagle nests were located during this survey effort.




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Appendix A: Aerial Search Flight Path on the Proposed Waller Solar 1 Project, 29 April 2022



Appendix B: Proposed Waller Solar 1 Project Survey Photographs

 COPPERHEAD ENVIRONMENTAL CONSULTING	2022 Raptor Nest Survey for the Proposed Waller Solar 1 Project Photographic Record	
Project No.: 1240	Counties, State: Lancaster County, VA	Client: Timmons Group
Photo No. 1: BAEA Site 01		
Date: 27 April 2022		
Location: 37.826846, -76.510611		
Description: Perched adult bald eagle.		
Photo No. 2: BAEA Site 01		
Dates: 27 April 2022		
Location: 37.826846, -76.510611		
Description: Two adult bald eagles flying.		