

**ENTERGY WHITE BLUFF PLANT
RECYCLE POND A AND RECYCLE POND B**

**DEMONSTRATION OF COMPLIANCE WITH
EPA CCR RULE SITING CRITERIA
§257.61, WETLANDS**

**PREPARED IN COMPLIANCE WITH THE
EPA FINAL RULE FOR THE DISPOSAL OF
COAL COMBUSTION RESIDUALS
TITLE 40 CODE OF FEDERAL REGULATIONS PART 257**



OCTOBER 17, 2018

ENTERGY WHITE BLUFF PLANT
RECYCLE POND A AND RECYCLE POND B
DEMONSTRATION OF COMPLIANCE WITH
EPA CCR RULE SITING CRITERIA
§257.61, WETLANDS

Prepared for

Entergy Arkansas, Inc.
PO Box 551
Little Rock, AR 72203

Prepared by

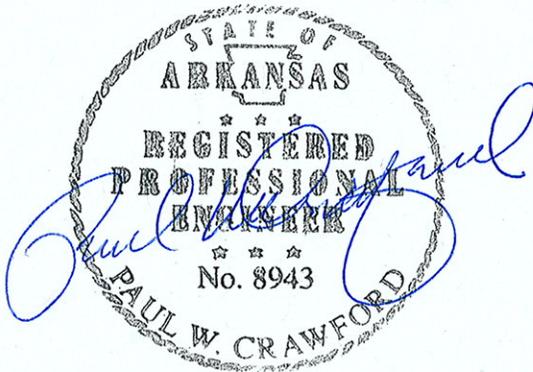
FTN Associates, Ltd.
3 Innwood Circle, Suite 220
Little Rock, AR 72211

FTN No. R07920-1862-001

October 17, 2018

PROFESSIONAL ENGINEER'S CERTIFICATION

With this certification, I certify that I, as a Professional Engineer in the State of Arkansas, am a qualified professional engineer as defined in §257.53 of Title 40 Code of Federal Regulations (40 CFR) Part 257, that this report has been prepared under my direction in accordance with generally accepted good engineering practices, that the findings are accurate to the best of my knowledge, and that the CCR unit that is subject to this certification meets the location restriction requirements under §257.61 of 40 CFR Part 257.



Paul Crawford, Arkansas PE #8943

10.17.18
Date

TABLE OF CONTENTS

PROFESSIONAL ENGINEER’S CERTIFICATION	i
1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION	1
3.0 WETLANDS EVALUATION.....	1
4.0 CONCLUSIONS.....	3
5.0 REFERENCES	3

LIST OF APPENDICES

APPENDIX A: Figures

1.0 INTRODUCTION

Entergy Arkansas, Inc. (Entergy), operates the White Bluff plant located approximately 2.5 miles southeast of Redfield, Arkansas. The plant utilizes two recycle ponds, hereafter referred to as Recycle Pond A (south pond) and Recycle Pond B (north pond), for, among other things, the management of bottom ash transport water. Pursuant to §257.61 of Title 40 Code of Federal Regulations (40 CFR) Part 257, existing coal combustion residual (CCR) surface impoundments must not be located in wetlands, as defined in §232.2, unless the requirements of §257.61(a)(1) through (5) are met. This report presents the findings of an evaluation of Recycle Pond A and Recycle Pond B in support of the location restriction requirements of §257.61.

2.0 SITE DESCRIPTION

Recycle Pond A and Recycle Pond B are shown on Figure 1 (all figures are located in Appendix A). Recycle Pond A has an approximate surface area of 7.0 acres and Recycle Pond B has an approximate surface area of 6.5 acres¹. The typical water level elevation in each pond is approximately 278 ft North American Vertical Datum of 1988 (NAVD88) based on a June 2018 field survey. Topography surrounding the immediate vicinity of the recycle ponds was graded during plant construction and is generally flat-lying, with existing ground surface elevations ranging from approximately 277 to 285 ft NAVD88, as shown on Figures 1 and 2. Natural topography in the vicinity of the ponds is gently to steeply sloping (Figure 2).

3.0 WETLANDS EVALUATION

The US Geological Survey (USGS) topographic quadrangle (based on imagery from 1970) does not map any water features, either wetlands or stream channels, within the area of the recycle ponds (Figure 2). As shown on Figure 2, the topography of the recycle pond area

¹ Pond surface areas were estimated based on surveyed water levels during field activities in June 2018.

historically varied in elevation from approximately 260 to 290 ft NAVD88. Historical aerial imagery from 1968, prior to recycle pond construction, provides no visual indication of potential wetlands as shown on Figure 3. However, both the topographic quadrangle and historical aerial imagery do show potential for the presence of stream channel features within the area of the recycle ponds prior to construction.

In an effort to determine site conditions prior to construction, the final environmental impact statement (EIS) for the White Bluff plant, *Final Environmental Statement, White Bluff Steam Electric Generating Station, Redfield, AR*, prepared by the US Army Corps of Engineers Little Rock District (USACE LRD) (1977) was reviewed. The final EIS described overall site conditions, including a discussion of the terrestrial and aquatic ecological setting. No mention was made of potential wetlands with regard to either the terrestrial or aquatic portions of the site. Furthermore, a Department of the Army Permit (permit no. W-ND-050-03-418) was obtained to “construct and operate a clean water holding pond spillway; clean water holding pond dike and water intake structures (including the placement of approximately 144,000 cubic yards of random fill, 12,900 cubic yards of protection stone, and 5,595 cubic yards of formed concrete).” The issued permit included authorization under both Section 10 of the Rivers and Harbors Act and Section 404 of the Federal Water Pollution Control Act. Although this permit did not specifically address the area of the recycle ponds, it provides a reasonable indication that Arkansas Power and Light Company (the permit applicant) was performing necessary due diligence in order to satisfy federal requirements and that if the area of the recycle ponds had been classified as wetlands, a description of those wetlands would have been included in the final EIS and authorization would have been obtained under the issued Section 404 permit.

The US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) currently maps the recycle ponds as freshwater pond features (USFWS 2018) (Figure 5). However, as the NWI mapping was done after the recycle ponds were built, these data do not provide indication of potential wetlands within the area of the recycle ponds prior to construction.

A site visit was conducted in August 2018. No wetlands were observed within or immediately adjacent to the recycle ponds during this visit. Presently, the recycle ponds

themselves would not be considered wetlands under Section 404 as they do not support wetland vegetation and lack a hydrologic connection to a navigable water.

FTN's professional opinion is that the recycle ponds were not constructed in or immediately adjacent to wetlands.

4.0 CONCLUSIONS

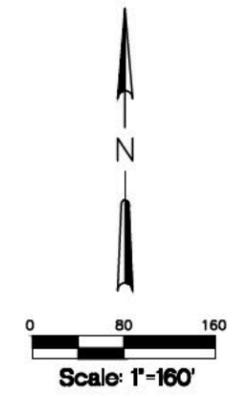
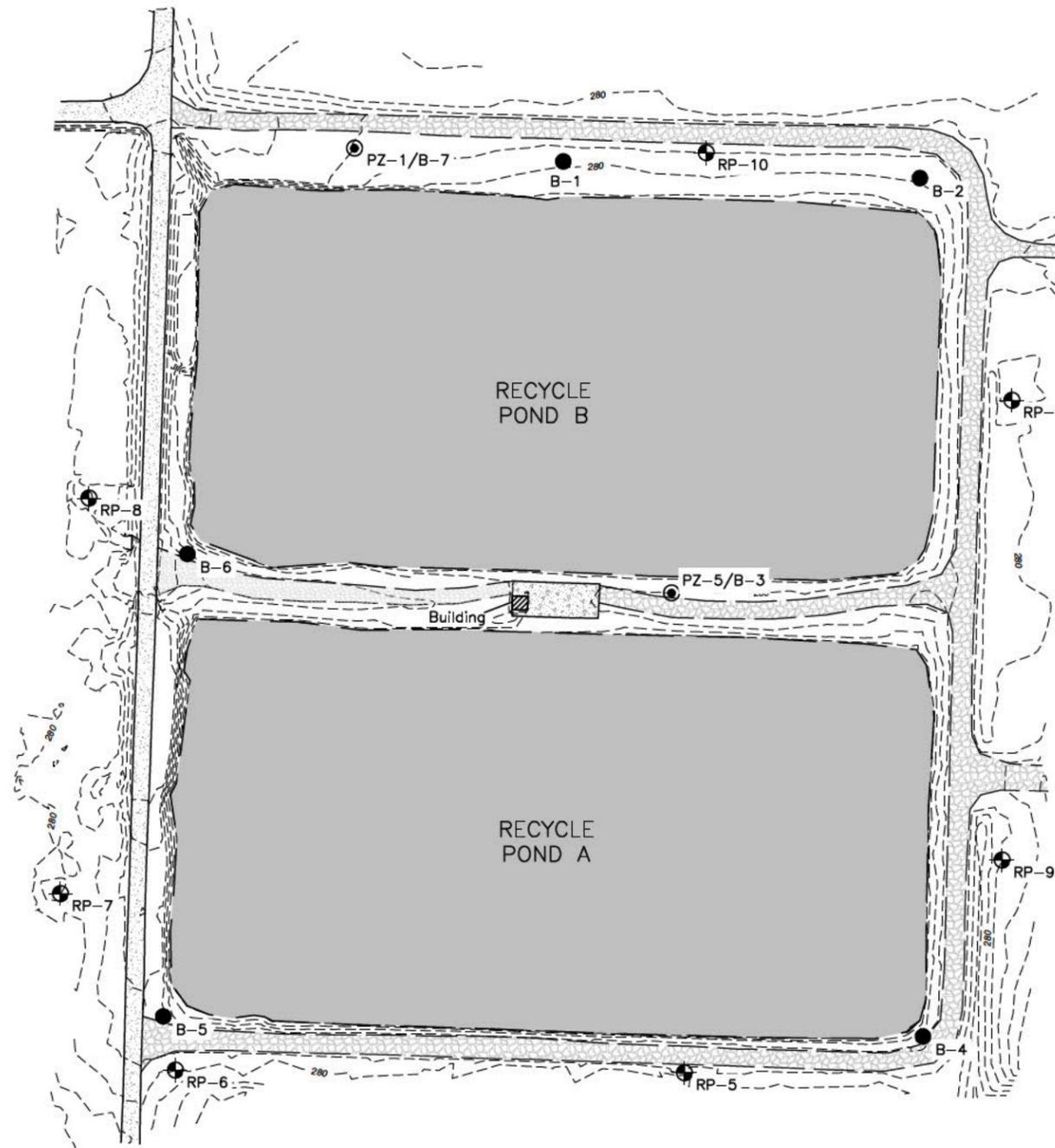
Based on a review of the available documentation in this report, neither Recycle Pond A nor Recycle Pond B is located in a wetland and therefore both Recycle Pond A and Recycle Pond B at the Entergy White Bluff plant meet the location restriction requirements of §257.61.

5.0 REFERENCES

- Department of the Army. 1977. Department of the Army Permit No. W-ND-050-03-418 [issued 2 June 1977 to Arkansas Power and Light Company].
- USACE LRD [US Army Corps of Engineers Little Rock District]. 1977. *Final Environmental Statement, White Bluff Steam Electric Generating Station, Redfield, AR*. Little Rock, AR: US Army Corps of Engineers, Little Rock District. April 14, 1977.
- USFWS [US Fish and Wildlife Service]. 2018. "Wetlands Mapper" [web page]. US Fish and Wildlife Service, National Wetlands Inventory. Online at <https://www.fws.gov/wetlands/data/mapper.html> (accessed 24 August 2018).
- USGS [US Geological Survey]. 1968. "1VBWA00010012" [aerial photo single frame]. US Geological Survey. Available online at <https://earthexplorer.usgs.gov/metadata/4660/AR1VBWA00010012/>
- . 1970. "USGS 1:24000-Scale Quadrangle for Redfield, AR 1970." US Geological Survey. Online at <https://www.sciencebase.gov/catalog/item/5a8a2a3fe4b00f54eb3c831d>.

APPENDIX A

Figures



LEGEND

-----280-----	5-FT INDEX CONTOUR
.....	1-FT INTERMEDIATE CONTOUR
-----	PAVED ROAD
-----	GRAVEL ROAD
-----	CONCRETE PAD
● B-1	SOIL BORING
○ PZ-1	PIEZOMETER
⊕ RP-6	MONITORING WELL
█	EXTENT OF WATER, JUNE 2018
—	EDGE OF WATER, JUNE 2018

- NOTES:**
1. TOPOGRAPHIC INFORMATION IS FROM SURVEY PERFORMED BY HARMON SURVEYING, INC., JUNE 2018.
 2. DRAWING IS BASED ON ARKANSAS STATE PLANE SYSTEM, NAD83, U.S. FEET.

Figure 1. Site map, Entergy White Bluff recycle ponds.

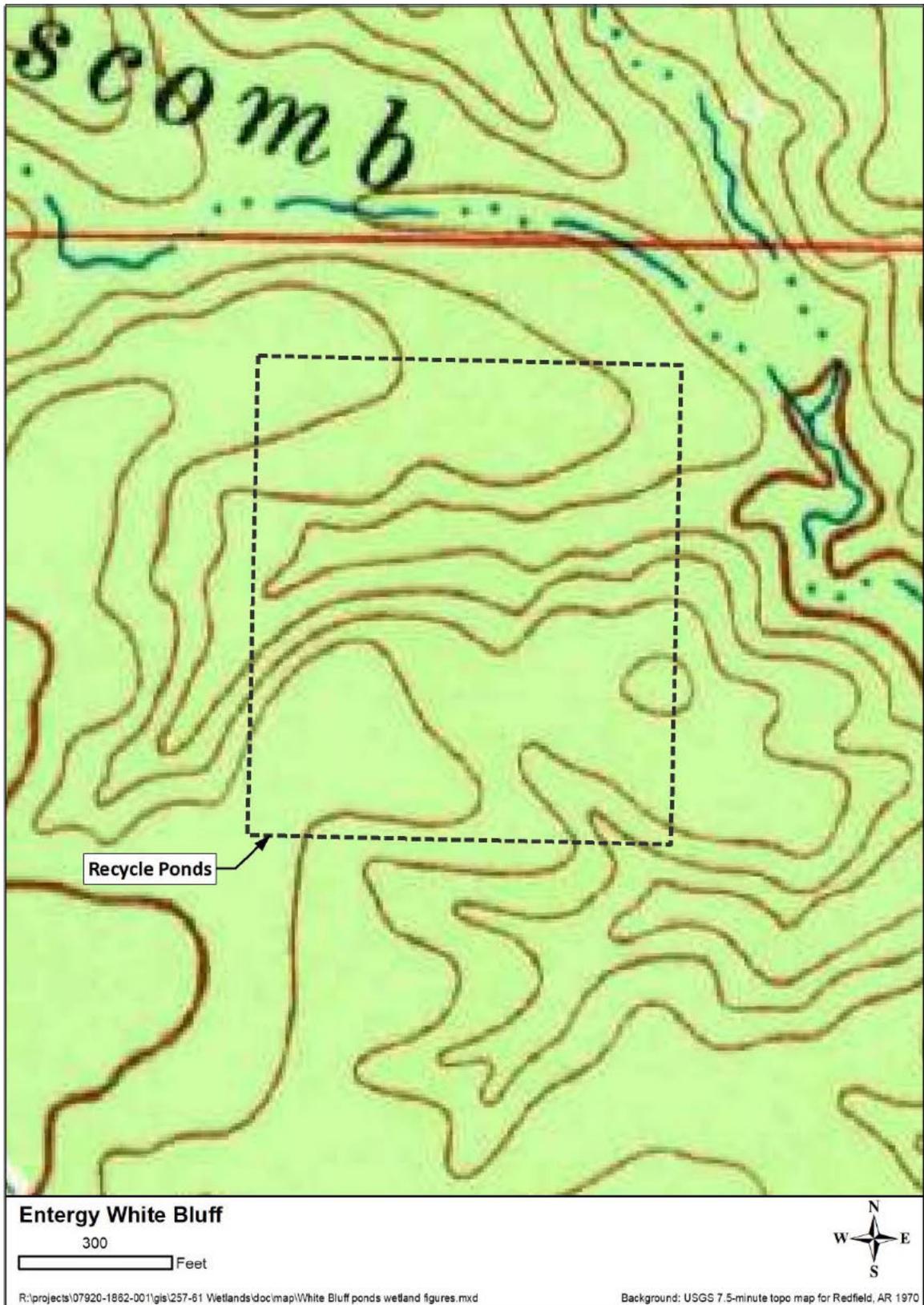


Figure 2. Topographic map of the recycle pond area based on USGS topographic quadrangle Redfield, AR (USGS 1970).

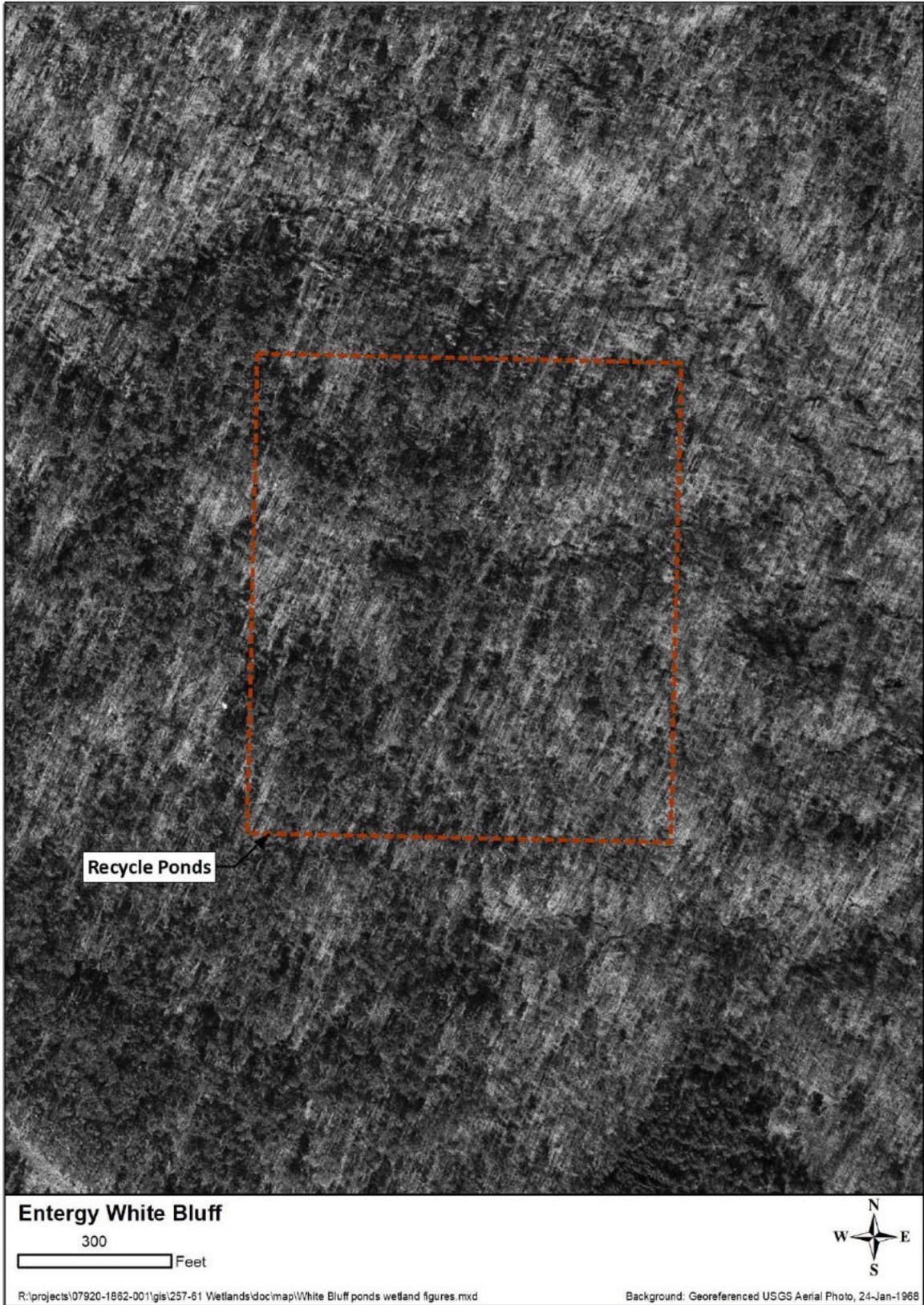


Figure 3. Aerial photograph of the recycle pond area based on USGS aerial imagery (USGS 1968).



U.S. Fish and Wildlife Service, National Standards and Support Team,
wetlands_team@fws.gov

August 24, 2018

Wetlands

- | | | |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland |  Lake |
|  Estuarine and Marine Wetland |  Freshwater Forested/Shrub Wetland |  Other |
| |  Freshwater Pond |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Figure 4. Current mapping of recycle ponds by NWI.