



This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 21 Feb 2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:CESAJ-RD-WT SAJ-2009-01869 Avon Park Air Force Range, Polk and Highlands County, FL.

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State:FL County/parish/borough: Polk/Highlands City: Avon Park
Center coordinates of site (lat/long in degree decimal format): Lat. 27.649557° N, Long. -81.342784 ° W.
Universal Transverse Mercator:

Name of nearest waterbody: Arbuckle Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Lake Istokpoga

Name of watershed or Hydrologic Unit Code (HUC): Lake Istokpoga (HUC 0309010116)

[X] Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

[] Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

[X] Office (Desk) Determination. Date: 11 Feb 2020

[X] Field Determination. Date(s): 10 Dec 2019

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

[] Waters subject to the ebb and flow of the tide.

[] Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There are and are not "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply): 1

- [] TNWs, including territorial seas
[] Wetlands adjacent to TNWs
[] Relatively permanent waters2 (RPWs) that flow directly or indirectly into TNWs
[] Non-RPWs that flow directly or indirectly into TNWs
[] Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
[X] Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
[] Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
[] Impoundments of jurisdictional waters
[] Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: 24.8 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):3

[X] Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Swale #3, Swale #5, Non-Jurisdictional Area #9A and #9B, Swale #12, Swale #11, Swale #10, Swale #8, and Ditch #7 (for a total of 14.13 ac) were determined to be non-tidal drainage ditches excavated on dryland and water filled depressions created in dry land incidental to construction of the flightline (Preamble to 33 CFR Part 328 in the Nov 13, 1986 FR) Additionally, Wetland #1 and #2 (for a total of 3.32 ac) were determined to be non-navigable,

1 Boxes checked below shall be supported by completing the appropriate sections in Section III below.

2 For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

3 Supporting documentation is presented in Section III.F.

intrastate waters for which the only potential basis to exercise Corps jurisdiction would be migratory bird use. Migratory bird use by itself is not a sufficient basis to exercise CWA jurisdiction (Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 2001).

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **Pick List**

Average annual rainfall: 50 inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: .

Tributary stream order, if known: .

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):

Average width: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover:
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: .

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 24.8 acres

Wetland type. Explain: Palustrine: emergent persistent, seasonally flooded.

Wetland quality. Explain: Moderate.

Project wetlands cross or serve as state boundaries. Explain: No.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain:

Surface flow is: **Discrete and confined**

Characteristics:

Subsurface flow: **Yes**. Explain findings: wetlands are characterized as palustrine emergent persistent seasonally flooded.

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain: The proximity to a jurisdictional water is reasonably close, supporting the science-based inference, that such wetlands have an ecological interconnection with jurisdictional waters.

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **10-15** river miles from TNW.

Project waters are **10-15** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width):

Vegetation type/percent cover. Explain:

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: Provides breeding, nesting, and foraging habitat for insects, reptiles, birds, amphibians, mollusks, and mammals (Haag and Lee 2010).

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **8**

Approximately (75.73) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Wetland #4 (N)	24.8 ac		
Wet 1 (N)	0.13 ac		
Wet 2 (N)	0.3 ac		
Wet (Y)	3.4 ac		
Wet 4 (Y)	9 ac		
Wet 5 (Y)	30 ac		
Wet (N)	6.3 ac		
Wet 7 (Y)	1.8 ac		

Summarize overall biological, chemical and physical functions being performed: Contributes freshwater inflow into TNW and filters and removes sediments and nutrients from watershed (Harper et al 1986 and Johengen & LaRock 1993). Maintains water flow within watershed, providing temporary storage of surface water to reduce local flooding (Smith et al 1995). Provides breeding, nesting, and foraging habitat for insects, reptiles, birds, amphibians, mollusks, and mammals (Haag and Lee 2010).

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The Eleventh Circuit has concluded that the Kennedy standard is the sole method of determining CWA jurisdiction in that Circuit (United States v. McWane, Inc., et al., 505 F.3d 1208 [11th Cir. 2007]); therefore, unless the aquatic resources are traditional navigable waters or wetlands adjacent to traditional navigable waters, the Corps needs to conduct a significant nexus determination on all other waters in order to determine jurisdiction under the CWA. The Corps has determined that for this review, Wetland #4, in combination with a RPW (located outside the review area), to which it is adjacent, and with similarly situated adjacent wetlands, have more than an insubstantial or speculative effect on the physical, chemical, and biological integrity of the downstream TNW.

The following represents the significant nexus finding for Wetland #4 and RPW (the Rim Canal, located outside of review area). Wetland #4 and the Rim Canal provides numerous functions that benefit the downstream water integrity. These functions include storage of floodwater; recharge of ground water that sustains river baseflow; retention and transformation of nutrients, metals, and pesticides; export of organisms or reproductive propagules to downstream waters; and habitats needed for stream species (EPA 2015).

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
- Wetlands adjacent to TNWs: acres.

2. RPWs that flow directly or indirectly into TNWs.

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 - Other non-wetland waters: acres.
- Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 - Other non-wetland waters: acres.
- Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
 - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **24.8** acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

⁸See Footnote # 3.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters: .
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: 3.32 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: .
- USDA Natural Resources Conservation Service Soil Survey. Citation: .
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): .
or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: See below.
- Other information (please specify): See below.

Applicable/supporting scientific literature:

Environmental Protection Agency (EPA). 2015. Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence. EPA/600/R-14/475.

Haag, K. and Lee, T. 2010. Hydrology and Ecology of Freshwater Wetlands in Central Florida-A Primer. Prepared in cooperation with the St. Johns River Water Management District, the Southwest Florida Water Management District and Tampa Bay Water. U.S. Department of the Interior, U.S. Geological Survey.

Harper, H., Wanielista, M., Baker, D., Fries, B., and Livingston, E. 1986. Treatment Efficiencies for Residential Stormwater Runoff in a Hardwood Wetland. Lake and Reservoir Management. 2:1, 351-356.

Johengen, T. and LaRock, P. 1993. Quantifying Nutrient Removal Processes Within a Constructed Wetland Designed to Treat Urban Stormwater Runoff. Ecological Engineering, 2(1993) 347-366.

Smith, R.D., Ammann, A., Bartoldus, C., and Brinson, M.M. 1995. An Approach for Assessing Wetland Functions Using Hydrogeomorphic Classification, Reference Wetlands, and Functional Indices, Wetland Research Program Technical Report, USACE.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

List of Figures

Figure 1: Project Location

Figure 2: Review Area

Figure 3: Aquatic Resources within the Review Area

Figure 4: Wetlands Being Considered in Cumulative Analysis

Enclosure

Memorandum for Record: Description of Jurisdictional Waters in Review Area.

Figure 1: Project Location, File Number SAJ-2009-01869 Avon Park Air Force Range, Polk and Highlands County, FL.

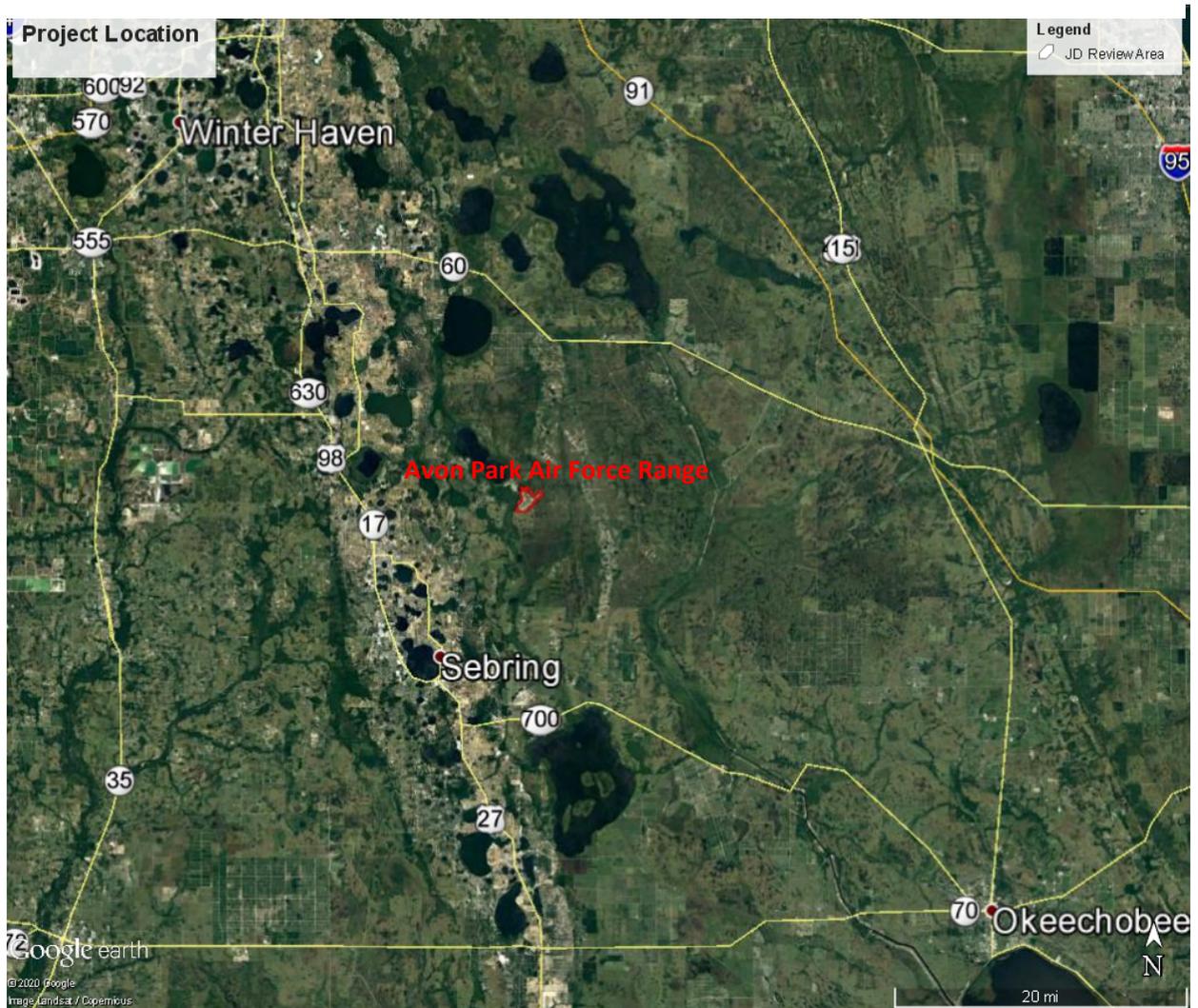
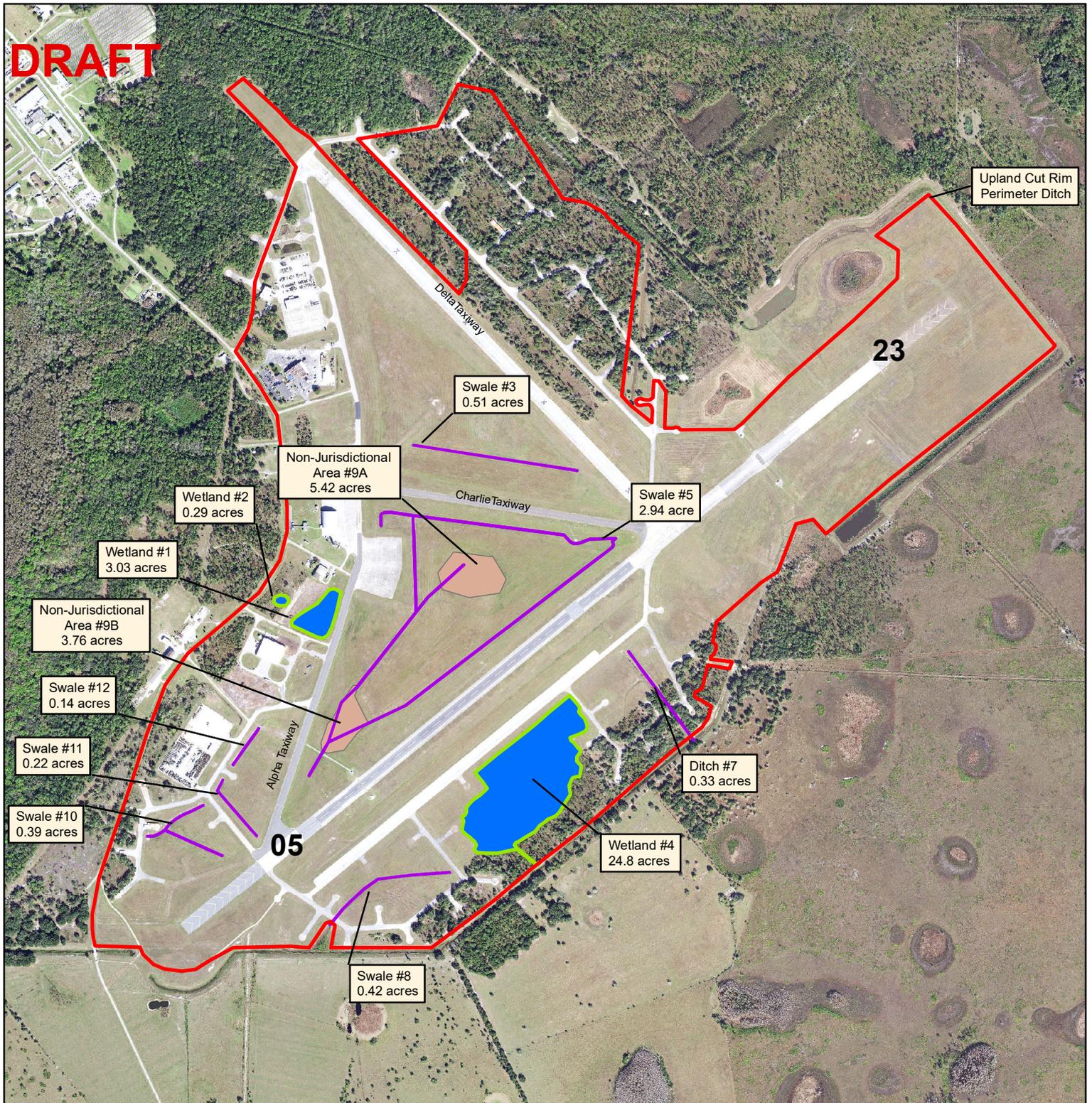


Figure 2: Review Area, File Number SAJ-2009-01869 Avon Park Air Force Range, Polk and Highlands County, FL.



Figure 3: Aquatic Resources in the Review Area, SAJ-2009-01869 Avon Park Air Force Range



Avon Park Airfield AJD and Upland Boundary Request - approx 932 acres

Field Verified 6/4/2019 - Wetlands

Field Verified 6/4/2019 - Swale or Ditch

Field Verified 6/4/2019 - Non-Jurisdictional Area

**Avon Park AFR
AJD and Upland
Boundary Request
for Avon Park Airfield**

Imagery from Florida Department of Transportation acquired 2017

FOR OFFICIAL USE ONLY



Prepared by:
Center for Environmental
Management of Military
Lands (CEMML)/
Colorado State University
Date: 12/26/2019
Cooperative Agreement:
Number W9126G-18-2-0033



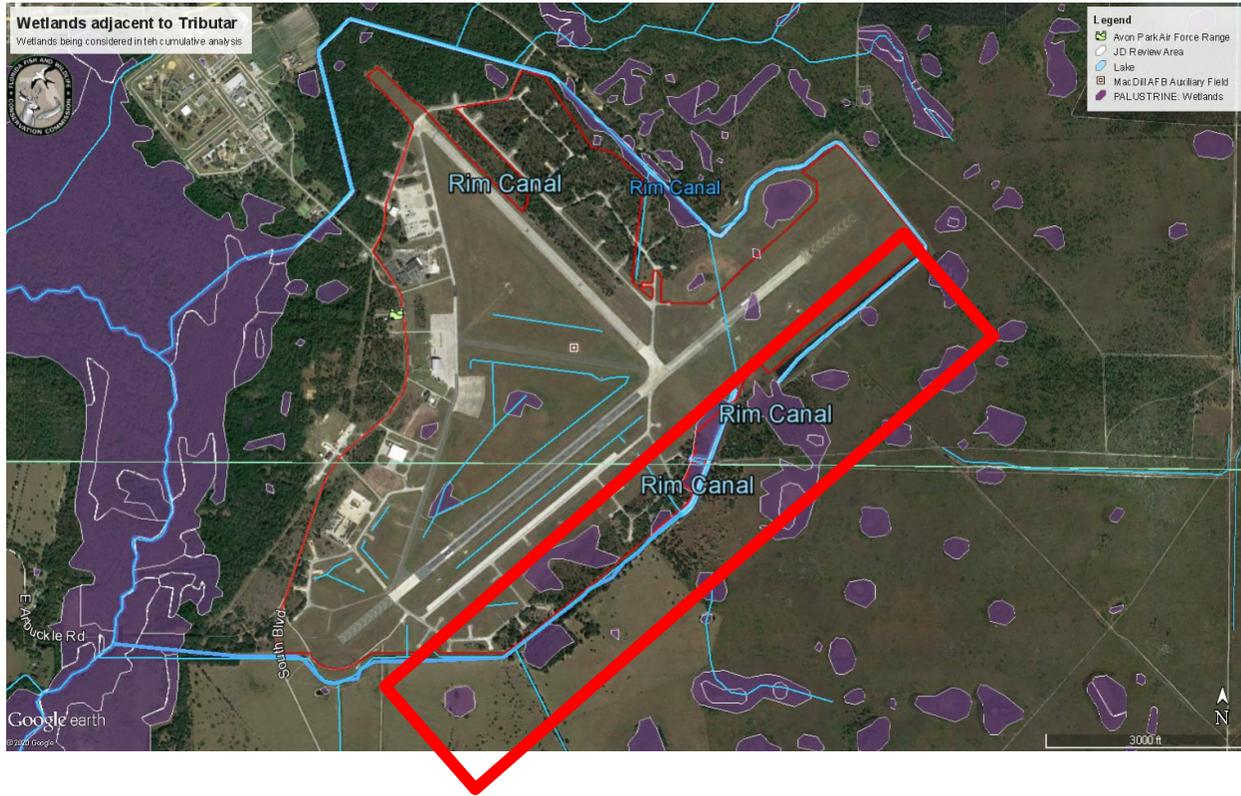
Coordinate System: WGS 1984 UTM Zone 17N
Projection: Transverse Mercator
Datum: WGS 1984
Scale: 1:16,430



DRAFT

Map created for presentation purposes only. Although efforts have been made to verify data, accuracy cannot be guaranteed

Figure 4: Wetlands Being Considered in Cumulative Analysis (shown in Red Rectangle), File Number SAJ-2009-01869 Avon Park Air Force Range, Polk and Highlands County, FL.



MEMORANDUM FOR RECORD

SUBJECT: Description of Jurisdictional Waters for Approved Jurisdictional Determination, File Number SAJ-2009-01869 Avon Park Air Force Range, Polk/Highlands County, FL.

The Corps utilized the June 5, 2007 memorandum that provides guidance for Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States* (referred to as "Rapanos Guidance") and 33 CFR 328.3(a) to identify which waters in the review area were subject to jurisdiction under the Clean Water Act.

The Corps found the following jurisdictional and non-jurisdictional waters within the review area:

1. Wetlands adjacent to but not directly abutting a Relatively Permanent Water (RPW) that flows indirectly into a TNW (for a total of 24.8 ac):
 - Wetland #4 (24.8 ac).

Rapanos Guidance states that the Corps should exert jurisdiction over wetlands adjacent to an RPW that flows indirectly into a TNW. The Corps determined that Wetland #4 satisfies this standard and is jurisdictional. Surface water from Wetland #4 flows through a small ditch that runs outside the review area, into a large perimeter channel called "Rim Canal." The Rim Canal is an RPW that flows directly into Arbuckle Creek, a tributary of Lake Istokpoga (the TNW). Rapanos Guidance states that the Corps should exert jurisdiction over non-navigable tributaries of TNWs that are RPWs where the tributaries typically flow year-round or has a continuous flow at least seasonally (3 months a year). The Corps determined that the Rim Canal satisfies this standard and is a jurisdictional RPW.

Although the hydrologic connection between Wetland #4 and the Rim Canal may be intermittent, Wetlands #4's close proximity to the Rim Canal supports the science-based inference that such wetlands have an ecological interconnection with jurisdictional waters. Thus, the Corps has determined that the 24.8 ac wetland in combination with the Rim Canal to which it is adjacent, and with similarly situated adjacent wetlands, have a significant nexus with Lake Istokpoga. Data supporting this determination is provided in Section III.C.3 of AJD Form.

Field observations and technical information available for the site show that the extensive Rim Canal is a relatively permanent non-navigable tributary of Lake Istokpoga. Field site observations confirmed that the Rim Canal supports water flow year-round or has a continuous flow at least seasonally typically following local rainfall patterns. Avon Park receives 50.69 inches of rain annually and it rains on average 73 days a year with a pronounced wet (July-Sept) and dry (Oct-June) season (<http://www.usa.com/avon-park-fl-weather.htm>). An evaluation of the precipitation data using the Direct Antecedent Rainfall Evaluation Method (DAREM Analysis) showed that during a Dec site visit rainfall conditions were "normal." Water flowing within the canal during the dry season proves that the canal is capable of supporting water flow, not only seasonally during the wet season but also during the dry season under normal rainfall conditions.

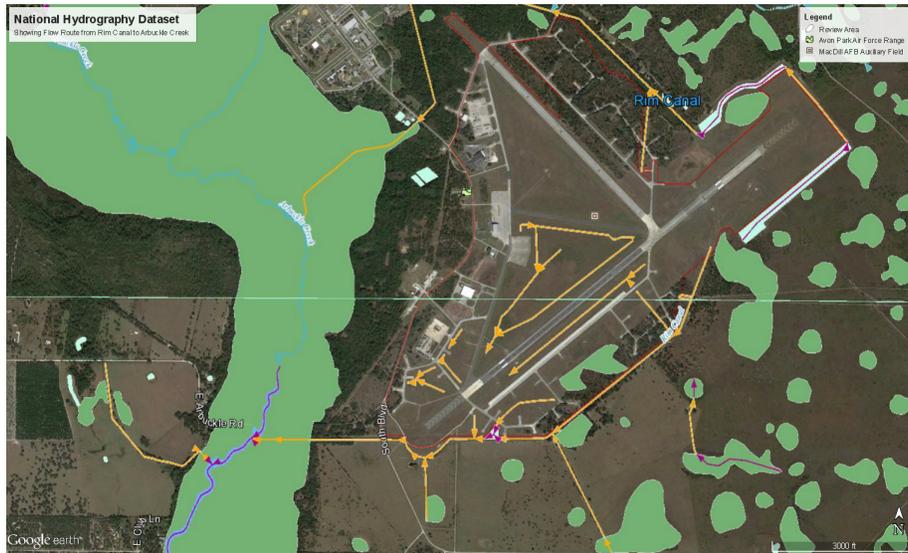
The NHD layer shows that the 40-60 ft wide and 5-20 ft deep, Rim Canal exhibits the appropriate hydraulic connection to Arbuckle Creek and a series of historical aerial photos, ranging from 1941 to present day, confirms that the Rim Canal has been functioning as a tributary of Arbuckle Creek for the last 76 years (prior to 1944); collecting and conveying water downstream into the TNW.



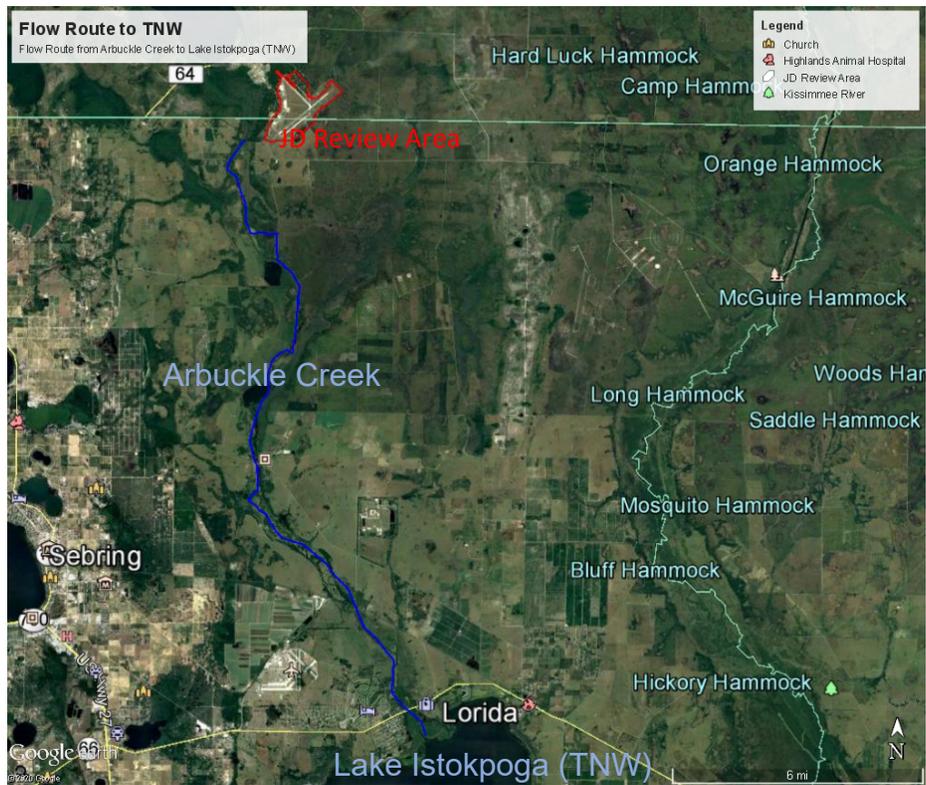
Rim Canal (shown in blue) in relation to JD Review Area (shown in red).



Rim Canal conveying water offsite into Arbuckle Creek (Yellow Star  indicates where the pictures were taken).



NHD Layer showing flow route from Rim Canal to Arbuckle Creek.



Flow route from Arbuckle Creek to Lake Istokpoga (the TNW).



Small Ditch that connects Wetland #4 and the Rim Canal (yellow star indicates where picture was taken).



Water flowing in Rim Canal, picture was taken from Wetland # 4, looking northeast (yellow star indicates where picture was taken).

2. Non-regulated waters/wetlands (for a total of 17.45 ac):

- Swale #3 (0.51 ac), Swale #5 (2.94 ac), Non-Jurisdictional Area #9A (5.42 ac), Non-Jurisdictional Area #9B (3.76 ac), Swale #12 (0.14 ac), Swale #11 (0.22 ac), Swale #10 (0.39 ac), Swale #8 (0.42 ac), Ditch #7 (0.33 ac).

Aquatic resources listed above were determined to be non-tidal drainage ditches excavated on dry land and water filled depressions created in dry land incidental to construction of flight line runways (Preamble to 33 CFR Part 328 in the Nov 13, 1986 FR).

A review of historical aerial photos show that the upland area between the runways were excavated during construction. The excavation work created a low lying depressional area to capture and retain surface water runoff.



1958 Aerial photo showing excavation occurring in the center of runways.

➤ Wetland #2 (0.29 ac) and Wetland #1 (3.03 ac)

Aquatic resources listed above were determined to be isolated. The waters listed above are non-navigable, intrastate waters for which the only potential basis to exercise Corps jurisdiction would be migratory bird use. Migratory bird use by itself is not a sufficient basis to exercise CWA jurisdiction (Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 2001).

Additionally, none of these waters are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, and waters are not subject to the ebb and flow of the tide (33CFR328.3(a)(1)). None of the waters are interstate waters or wetlands (33 CFR 328.3(a)(2)). These waters are located entirely within private property and could not be used by foreign or interstate travelers for recreational or other purposes, these waters do not support fisheries that could be taken and sold in interstate or foreign commerce, and there is no industrial use for these waters in interstate commerce. Thus, no use or degradation of these waters could directly affect interstate commerce (33 CFR 328.3(a)(1) and 33 CFR 328.3(a)(3)). None of these waters are impoundments of waters otherwise defined as waters of the U.S. (33 CFR 328.3(a)(4)). None of the waters are tributaries of waters defined in 33 CFR 328.3(a)(1-4). None of these waters exhibit a continuous surface connection with any type of tributary of a traditionally navigable water (TNW). Thus, none of the waters satisfy 33 CFR 328.3(a)(5). The nearest TNW is Lake Istokpoga, located 15 miles south of project site. The closest tributary is Arbuckle Creek locate 0.5 miles west of project site. The Corps could not identify any direct physical surface connection between Wetlands and Arbuckle Creek. Wetlands are separated from Arbuckle Creek by 0.5 miles or 3, 000 ft of uplands. Thus, the Corps has determined that there is no basis to apply the significant nexus “Kennedy” test articulated in the Rapanos Guidance. None of these inland waters are subject to the ebb and flow of the tide. Thus, none of these waters could be defined as the territorial seas (33 CFR 328.3(a)(6)). None of these waters are adjacent to any water of the United States as defined by 33 CFR 328.3(a) (1-6).