

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):** March 1, 2015

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Alaska District, POA- 2014-189 – Big Lake

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Alaska                      Borough: Matanuska-Susitna                      City: Houston  
Center coordinates of site (lat/long in degree decimal format): Lat. 61.7956 °N, Long. 149.8205 °W  
Universal Transverse Mercator: NAD83  
Name of nearest waterbody: Big Beaver Lake  
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Big Lake  
Name of watershed or Hydrologic Unit Code (HUC): Fish Creek 1902040105

- 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:**

- Office (Desk) Determination. Date: June 29, 2015
- Field Determination. Date(s): May 8, 2015, March 1, 2014

**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.

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There are “*waters of the U.S.*” within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area.

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area:**

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters (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
- 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:**

Wetlands: 11.66 acres.

**c. Limits (boundaries) of jurisdiction based on:** 1987 Delineation Manual, 2007 Alaska Regional Supplement

**2. Non-regulated waters/wetlands:**

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

**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):**

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

**(i) General Area Conditions:**

Watershed size: 76,446 acres

Drainage area: 32,260 acres

Average annual rainfall: 17.5 inches

Average annual snowfall: 51.4 inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 6 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

Identify flow route to TNW: Shallow groundwater and surface water connection to the Beaver Lakes to the southwest of the review area. West Beaver Lake and Big Beaver Lake are connected to Beaverhouse Lake and Lynda Lake by unnamed relatively permanent waterways; Beaverhouse Lake and Lynda Lake are connected to the TNW Big Lake by Meadow Creek, a RPW.

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

**Tributary is:**  Natural

Artificial (man-made).

Manipulated (man-altered).

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

Average width: 3 feet  
Average depth: 1 foot  
Average side slopes: 2:1

Primary tributary substrate composition (check all that apply):

- |   |  |                                   |
|---|--|-----------------------------------|
| <input checked="" type="checkbox"/> Silts   | <input checked="" type="checkbox"/> Sands          | <input type="checkbox"/> Concrete |
| <input checked="" type="checkbox"/> Cobbles | <input checked="" type="checkbox"/> Gravel         | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock            | <input type="checkbox"/> Vegetation. Type/% cover: |                                   |
| <input type="checkbox"/> Other. Explain:    |  |                                   |

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

Tributary geometry: Meandering

Tributary gradient (approximate average slope): .006%

(c) Flow:

Tributary provides for: perennial flow

Surface flow is: Confined Characteristics: Well defined stream exists in all seasons based on Google Earth historical imagery dating back to 6/17/2002

Tributary has (check all that apply):

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

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

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

**(iii) Chemical Characteristics:**

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

Explain: water color is clear by the time it reaches West Beaver Lake, supports fair population of 8"-12" rainbow trout

**(iv) Biological Characteristics. Channel supports:**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics: Palustrine emergent wetland approximately 3000-feet long by 900-feet wide at confluence of tributary and West Beaver Lake
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings: 8"-12" rainbow trout in West Beaver Lake, which drains into Lynda Lake and Stepan Lake; both of which support rearing Coho salmon
  - Other environmentally-sensitive species.
  - Aquatic/wildlife diversity.

**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: 11.66 acres

Wetland type. Explain: Palustrine Emergent and Palustrine Shrub-Scrub

Wetland quality. Explain: Undeveloped, disturbed from vehicle traffic

**(b) General Flow Relationship with Non-TNW:**

Flow is: Perennial Flow Explain: Well defined stream exists in all seasons based on Google Earth historical imagery dating back to 6/17/2002

Surface flow is: Overland Sheetflow

**(c) Wetland Adjacency Determination with Non-TNW:**

- Directly abutting
- Not directly abutting
  - Discrete wetland hydrologic connection.
  - Ecological connection.
  - Separated by berm/barrier.

**(d) Proximity (Relationship) to TNW**

Project wetlands are 5-10 river miles from TNW.

Project waters are 2-5 aerial (straight) miles from TNW.

Flow is from: Wetland to Navigable Waters

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Water appears clear, ponding occurring due to vehicle traffic, supports somewhat low plant species diversity and richness with 60-70% coverage for all strata combined, soils saturated muck with hydrogen sulfide odor

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

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain: Hydrophytic vegetation dominant 60-70% average cover for all strata combined
- Habitat for:
  - Federally Listed species.
  - Fish/spawn areas.
  - Other environmentally-sensitive species.
  - Aquatic/wildlife diversity.

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

All wetland(s) being considered in the cumulative analysis: 4

Approximately (11.66) 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>
Yes	9.2
Yes	0.1
Yes	1.0
Yes	4.1

Summarize overall biological, chemical and physical functions being performed: Stormwater attenuation and gradual release, flood height and erosive potential reduction, water filtration, habitat for birds, plants, and wildlife

**C. SIGNIFICANT NEXUS DETERMINATION**

N/A

**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:
- Wetlands adjacent to TNWs:

**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: Well defined stream exists in all seasons based on Google Earth historical imagery dating back to 6/17/2002, images from all seasons depict water within streambank.
- 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:
- Other non-wetland waters:  
Identify type(s) of waters:

**3. Non-RPWs 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:  
 Other non-wetland 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: **RPW flowing into West Beaver Lake is mapped on USGS topographic map AK-ANCHORAGE C-8. Subsequent flow also mapped on USGS Quad map, 2010 two-foot interval contour data from Mat-Su Borough supports stream mapping, 2002-2012 Google Earth imagery supports stream mapping**
- 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: 11.66 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:

**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:

**7. Impoundments of jurisdictional waters.**

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):**

- 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.  
 Other factors.

**Identify water body and summarize rationale supporting determination:**

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

- Tributary waters:  
 Other non-wetland waters:  
    Identify type(s) of waters:  
 Wetlands:

**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):
- Lakes/ponds:
- Other non-wetland waters. List type of aquatic resource:
- Wetlands:

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):
- Lakes/ponds:
- Other non-wetland waters:
- Wetlands:

**SECTION IV: DATA SOURCES.**

**A SUPPORTING DATA. Data reviewed for JD (check all that apply):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Ridlon Preliminary Jurisdictional Determination, March 2015, Completed by Mr. Victor Ross, March 2015
- 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.
- Data sheets prepared by the Corps:
- Corps navigable waters' study: October 19, 1995 list of Alaska District Navigable Waters added Big Lake
- U.S. Geological Survey Hydrologic Atlas: Retrieved from USGS information portal May 10, 2015
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- Alaska District's Approved List of Navigable Waters
- U.S. Geological Survey map(s). Cite scale & quad name: AK-ANCHORAGE C-8
- USDA Natural Resources Conservation Service Soil Survey. Citation: Histosols, very poorly drained, Ksat 1.98-5.95 in/hr
- National wetlands inventory map(s). Cite name: PSS/PEM
- State/Local wetland inventory map(s): Mat-Su Wetland Mapper
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is:
- Photographs:  Aerial (Name & Date):  
 or  Other (Name & Date): Appendix A, Upland photos 1-9, Wetland photos 1-6
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): Two-foot interval LiDar data from Mat-Su borough, retrieved May 12, 2015

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** Office concurs with Wetland Delineation conducted by Mr. Victor Ross on the behalf of the applicant, March 2015

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Matt Ferguson  
Regulatory Specialist

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June 30, 2015  
Date