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

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): XX April 2010

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Ventura Field Office, Caltrans District 9 SR 395 Olancha to Cartago 4-Lane Project

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: California County/parish/borough: Inyo County City: The nearest city is Lone Pine
Center coordinates of site (lat/long in degree decimal format): Lat. 36.26872° N, Long. -118.01128° W.
Universal Transverse Mercator: [Section 19, Township 19 S, Range 37 E]
Name of nearest waterbody: Owens Lake
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Owens Lake
Name of watershed or Hydrologic Unit Code (HUC): 18090103 (Owens Lake)

☒ 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):

☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): July 2009

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "*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: Products mined from areas in the vicinity of Owens Lake, including soda, silver, and lead were transported across the lake by steam ship and then by wagon train or rail to Los Angeles, Nevada and San Francisco for distribution and sale.

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. [*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 waters[2] (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:**
      Non-wetland waters: linear feet: Various width (ft) and/or xx acres.
      Wetlands: 28.18 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]

[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.

☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **See other forms for isolated waters**.

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: **Owens Lake**.

Summarize rationale supporting determination: Today, Owens Lake is an isolated intrastate water with no existing surface connection to another traditional navigable water. Mono Lake to the north provides water to the Owens River by an aqueduct to Crowley Lake (a reservoir on the Owens River); minimal flow from the Owens River may reach Owens Lake during wet years. While Owens Lake does not currently have a surface connection to any other traditional navigable water; historical and current evidence of navigation and interstate commerce supports the determination that Owens Lake is a TNW. Historical records indicate two steam ships (Bessie Brady, Mollie Stevens) navigated across Owens Lake and facilitated interstate commerce over approximately 10 years between about 1872 and 1882. Silver, lead and soda were mined in the vicinity of Owens Lake and transported by steam ship to mule-team wagon trains which transported these materials across state lines to Virgina City, Nevada or to Los Angeles for distribution and sale to other areas in California and possibly elsewhere. Silver ore mined from the nearby Cerro Gordo mine was also transported by steam ship across the lake and sold to the U.S. Mint in San Francisco which subsequently used silver bars to make coins for circulation (U.S. Mint Report to Congress, 1855). Presently, the California State Lands Commission (Commission) owns and operates Owens Lake in trust for the people of the State of California. The State Lands Commission leases some of the lake bed to public and private entities for mineral extraction, grazing, and rights-of-way (such as for access roads). Other land uses on Owens Lake or the lake margin include rural residential development, limited commercial and visitor serving businesses, livestock grazing, a purified water bottling plant (Crystal Geyser), and the U.S. Borax salt processing facility.

Owens Lake is one of a chain of lakes formed during the Pleistocene epoch, about 1.8 million years ago. The lakes extended from Mono Lake (previously a much larger lake known as Lake Russell) in the north to Manley Lake, the southernmost of the chain, in what is now Death Valley. During much of this time, water from the Owens Valley basin flowed out of Owens Lake through Rose Valley and into China Lake. The high stand of the lake that produced the shorelines at an elevation of 3,880 feet above mean sea level (msl) is estimated to have occurred 15,000–16,000 years ago. Since that time, the surface extent of the water of Owens Lake decreased, although two deep cores on the lake bed failed to identify any previous episodes of complete desiccation. Uplift processes in the Coso Range, combined with a post-glacial drying trend eliminated overland outflow from the basin about 3,000 years ago. The result was a closed lake basin, losing water only through surface evaporation and transpiration. This internal drainage, combined with the arid environment, created the highly saline condition of remaining surface waters and playa soils at the bottom of the Owens Valley basin. Even in the 1800s, when Owens Lake was used as a navigable waterway, Owens Lake was an alkali lake and the natural hydrologic sink of the Owens Valley (GBUAPCD 2007).

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": Wetlands adjacent to Owens Lake (an alkaline dry lake) directly abut the lake, and are characterized as an alkali meadow. Wetlands directly abutting Owens lake are hydrologically connected to Ownes Lake by high groundwater, fault springs, and surface water diversions from drainage tributaries to the west of Owens Lake (as mandated by court order). Wetlands directly abutting Owens Lake support predominantly hydrophytic plants but are impacted by cattle grazing, and have developed hydric soils (see Appendix E of the Wetland Delineation Report).

Wetlands directly abutting Owens Lake meet all three wetland parameters as required in the Corps 1987 Wetland Delinieation Manual and the Arid West Supplement (2008). WL 1 is on the west side of SR 395 but was separated from the Owens Lake margin by the construction of SR 395. WL 1 is dominated by saltgrass (Distichlis spicata) and has a salt crust on the soil surface. WL 2 is east of SR 395 and supports a greater diversity of hydrophytic vegetation. WL 2 is dominated by hydrophytic plants including Baltic rush (Juncus balticus) and saltgrass; spikerush (Eleocharis macrostachya), cow's clover (Trifolium wormskioldii) and a thicket of American tule (Scirpus americanus) are also present. Willows (Salix sp.) border the west part of this wetland and are associated with an existing roadside ditch. The water table at this site is five inches below the soil surface and hydric soils are indicated by hydrogen sulfide odors and oxidized rhizopheres. WL 3 is east of SR 395 and south of WL 1 and WL 2. This wetland is a pasture and receives water from irrigation channels and in-field pipes that flow year round (out of the aquifer) and as a result of a court order. This wetland is dominated by Baltic rush, Mexican rush (Juncus mexicanus) cow's clover and sedges. High groundwater in this wetland is also due to the presence of an artesian well on an adjacent field to the east of WL 3.

Although neither a functional assessment nor a biological resources survey report were not conducted during the wetland delineation field work, wetlands directly abutting Owens Lake capture and filter runoff from pastures, roads, and developed areas, support wildlife and riparian bird species in areas where thickets of vegetation and riparian trees exist.

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 waterbody[4] 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: **square miles**
Average annual rainfall: 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 TNW[5]: .
Tributary stream order, if known: .

(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): %

[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.

(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
☐ OHWM[6] (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: .

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[6]A 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.
[7]Ibid.

(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: Red-legged frog.
  - ☐ 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: acres

Wetland type. Explain: .

Wetland quality. Explain: .

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

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

☐ 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: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

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

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

Flow is from: **Pick List.**

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: .

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

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

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

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

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: .

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: 28.18 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-RPWs[8] 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 jurisidictional. Data supporting this conclusion is provided at Section III.C.

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

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: .

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[8]See Footnote # 3.
[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.*

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

- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: linear feet which was determined to be 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: 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.
- ☐ 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: Three Rivers and Darwin Hills, 30 x 60 minute topographic series.
- ☐ 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 Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): Google Earth Pro.
  - or ☐ Other (Name & Date): .
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☒ Other information (please specify): Inyo County Water Department, Los Angeles Department of Water and Power, Historical Society of the Upper Mojave Desert, Sciencemag.org, GBUAPCD 2007; (Sawyer and Keeler-Wolf 1995).

B. ADDITIONAL COMMENTS TO SUPPORT JD: The following is an abstract authored by F.M. Phillips 2008 (Geological and hydrological history of the paleo-Owens River drainage from the late Miocene; Geological Society of America Special Papers, Vol. 439, pages 115-150). This abstract is provided to establish the geologic history of Owens Valley and Owens Lake. "From the late Miocene to the middle Pliocene, the current drainage basin of the Owens River probably consisted of a broad, moderate-elevation, low-relief plateau with radiating drainage toward the Pacific Ocean, the northwestern Great Basin (now Lahontan drainages), and the Mojave and Colorado drainages. This plateau probably contained shallow basins, created by an extensional pulse at 12–11 million years ago, at the present locations of major valleys. Between 4 and 3 million years ago, this plateau was disrupted by a rapid westward step of extensional Basin and Range Province tectonism, which reactivated the Miocene faults and resulted in a linear north-south valley (the Owens Valley) with high mountain ranges on each side. This tectonic event resulted in geographic isolation and fragmentation of aquatic habitats and may have been a critical driver for speciation of aquatic organisms. Subsequent to this remarkable transformation of the landscape, the predominant influence on aquatic habitats has been very large, climate-driven fluctuations in the regional water balance that have resulted in the repeated interconnection and disconnection of the various basins that make up the paleo–Owens system. The magnitude of these fluctuations appears to have increased markedly since the early Pleistocene. Searles Lake has generally been the terminus of the Owens River, but at least once, probably at ca. 150 and/or ca. 70 ka, the system overflowed into Death Valley. During the last interglacial (marine isotope stage 5) and the Holocene, Owens Lake has been the terminus, but apparently not frequently before". [Note: Searles Lake is south of Owens Lake in San Bernardino County].

Owens Lake captures runoff from several moutain ranges: the Sierra Nevada, the Inyo Mountains, the White Mountains, and the Coso Range. Some peaks within these ranges exceed 10,000 feet (mean sea level) and capture precipitation from Pacific storms during the winter and occasional thunder storms which occur in the summer. Annual precipitation (snow and rain) in the mountains averages approxiamtely 30 inches per year; average annual precipitation (rainfall) in the valley floor and Ownes Lake is approximately 6 inches; average annual snowfall is less than 6 inches. The Owens Vallley receives substantial discharges of water in the form of rainfall runoff or snow melt which was conveyed historically through natural drainage tributaries to into the alkaline bed of Owens Lake. The Owens Valley is composed of porous soils which absorb most runoff from the moutains; and the combination of sandy soils and highly seasonal flows from the mountains has created a series of alluvial fans and ephemeral streams which change course frequently. Runoff (if not captured by the Los Angeles Aqueduct) percolates rapidly into the soil and feeds the underground aquifer during the winter rain season and during spring snowmelt. Although rain and snowfall amounts are relatively low in the valley, the valley historically captured a substantial amount of water throughout the year due to naturally high groundwater, artesian conditions, and an extensive underground aquifer (Libecap 2007).

Prior to settlement of the Owens Valley in the 1800's, Owens Lake covered more than 100 square miles and exceeded a depth of approximately 20 feet. In 1913 after completion of the Los Angeles Aqueduct, the Los Angeles Department of Water and Power (LADWP) began diverting surface water from the Owens River and pumping groundwater from Owens Lake to the aqueduct for use by agricultural interests in Los Angeles County (San Fernando Valley) and urbanizing areas within the City of Los Angeles; today this is the main source of water for the City of Los Angeles. Due to surface diversions and groundwater pumping, evaporation exceeded the amount of water entering Owens Lake, and by 1926 the lake bed (and the Owens River) was dry. An extension of the aqueduct, as well as underground tunnels, were subsequently constructed and operational by 1941 and this infrastructure diverted water from Mono Lake as well as named and unnamed tributaries to Mono Lake, which further altered the downstream hydrology of Owens Lake. In addition, a second aqueduct was built by LADWP and began diverting more water from the Owens system in the 1970s.

While Owens Lake is an isolated intrastate dry lake, evidence of navigation and commerce is well documented. Before Owens Lake dried up, a chemical plant at Bartlet evaporated brine to extract chemicals. A charcoal kiln burned wood from Cottonwood Canyon near the lake to feed silver and lead smelters across the lake at Swansea. Cartago was a port out of which a barge-like vessels, the Bessie Brady (launched in 1872) and the Mollie Stevens, cut the three-day freight journey around the lake to three hours; navigation on Owens Lake via the Bessie Brady occurred until about 1882. Much of the freight carried by the Bessie Brady was silver bullion and lead mined from the Cerro Gordo Mines (northeast of Owens Lake) to waiting mule-team wagon trains (Cerro Gordo Freighting Company) which transported these materials to Virginia City, Nevada, or Los Angeles. Silver bullion was also shipped to the U.S. Mint in San Francisco, and this material was used by the Mint to create coin type currency for general circulation (U.S. Mint report to Congress, 1855). Around 1879 silver mining ended at the Cerro Gordo mine, but the Carson and Colorado Railroad built narrow-gauge rail tracks to the town of Keeler; these rail lines were later sold to Southern Pacific Railroad in 1900. Presently, borax is mined from Owens Lake which continues the history of interstate commerce on Owens Lake even in the absence of surface water.

Recently, court decisions (and several Memoranda of Understanding documents between LADWP and Inyo County) have required LADWP to release water into pasture land on the edge of Owens Lake and to restore 40 cubic feet per second of flow into the Owens River. In 2007 the aformentioned water releases from the Los Angeles Aqueduct system re-watered approximately 62 miles of the Owens River. This effort has led to a renewed interest in the Owens system, and activities such as kayaking and eco-tourism on the Owens River is ongoing. To improve existing and future passive and commercial recreational opportunities in the Owens Valley, the Inyo County Water Department is currently recruiting a planner to develop and implement a recreational opportunities and management plan on the Owens River in Inyo County.