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): October 15, 2008

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Mayberry Farms Subsidence Reversal Project (SPK-2008-00701)

C.	PROJECT LOCATION AND BACKGROUND INFORMATION: State: CA County/parish/borough: Sacramento City: n/a Center coordinates of site (lat/long in degree decimal format): Lat. 38.0524° N, Long121.7679° W. Universal Transverse Mercator: Name of nearest waterbody: Mayberry Slough Name of nearest Traditional Navigable Water (TNW) Into which the aquatic resource flows: Sacramento River Name of watershed or Hydrologic Unit Code (HUC): Lower Sacramento (HUC 18020109) 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: October 10, 2008 Field Determination. Date(s):
	CTION II: SUMMARY OF FINDINGS RHA SECTION 10 DETERMINATION OF JURISDICTION.
	re Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the ew 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:
В. (CWA SECTION 404 DETERMINATION OF JURISDICTION.
The	re 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): 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 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: 33,947 linear feet: (varies) width (ft) and/or 7.189 acres. Wetlands: 275.933 acres.
	c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual Elevation of established OHWM (if known):
	 Non-regulated waters/wetlands (check if applicable):³ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: .

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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).

Supporting documentation is presented in Section III.F.

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.

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

Watershed size: 1,100,796 (size of HUC) acres

Drainage area: Unknown acres
Average annual rainfall: 20.4 inches
Average annual snowfall: 0.00 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

Tributary flows through 3 tributaries before entering TNW.

Project waters are 1-2 river miles from TNW.

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

Project waters are 1 (or less) 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 : RPW ditches (DD 1 through DD 20) in the project area drain indirectly to the Sacramento River, a TNW. Water in the project area flows north and drains into DD 4 along the northern project area boundary. Water in this ditch is eventually pumped back into the Sherman Lake/ Sacramento River. Tributary stream order, if known:

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(b)	General	Tributary	<u>Characteristics</u>	(check a	ıll that	appl	y):

Tributary is: Natural

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.

Artificial (man-made). Explain: Tributaries consist of RPW ditches (DD 1 through DD 20) that were constructed. The project area was diked off from the Sacramento River and drained in the early 1900's for agricultural purposes, and the ditches are associated with long-term agricultural land use. Manipulated (man-altered). Explain:
Tributary properties with respect to top of bank (estimate): Average width: 0.5 - 40.3, primarily 3-10 feet Average depth: 1-4 feet Average side slopes: Vertical (1:1 or less).
Primary tributary substrate composition (check all that apply): Silts Sands Concrete Cobbles Gravel Muck Bedrock Vegetation. Type/% cover: Other. Explain: Beds of ditches are composed of native soil.
Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stabilized by abundant emergent vegetation along banks. Presence of run/riffle/pool complexes. Explain: None present; low-gradient ditches. Tributary geometry: Relatively straight Tributary gradient (approximate average slope): 1-2 %
(c) Flow: Tributary provides for: Seasonal flow Estimate average number of flow events in review area/year: 20 (or greater) Describe flow regime: Intermittent. Other information on duration and volume: Ditch hydrology consists of both groundwater and surface water inputs (from
Mayberry Slough via siphons). Flow duration is likely to occur for more than three continuous months. Surface flow is: Discrete and confined. Characteristics: Contained in ditches.
Subsurface flow: Unknown. Explain findings: Site elevation ranges from 9-19 feet below mean sea level; high groundwater therefore occurs. Specific flow dynamics are unknown. 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 changes in the character of soil destruction of terrestrial vegetation the presence of wrack line shelving the presence of wrack line sediment sorting sediment sorting sediment deposition multiple observed or predicted flow events water staining abrupt change in plant community other (list): Discontinuous OHWM. 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: oil or scum line along shore objects fine shell or debris deposits (foreshore) physical markings/characteristics tidal gauges other (list): Mean High Water Mark indicated by: survey to available datum; physical markings; vegetation lines/changes in vegetation types.
 (iii) Chemical Characteristics: Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: Unknown. Identify specific pollutants, if known: Unknown.
(iv) Biological Characteristics. Channel supports (check all that apply):

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.

	[[]	☐ Wetland fringe ☐ Habitat for: ☐ Federally L ☐ Fish/spawn ☐ Other envir	e. Characteristics Listed species. Ex a areas. Explain fi	aplain findings: . ndings: . tive species. Explain f		
2.	Chara	acteristics of wetla	ands adjacent to	non-TNW that flow o	lirectly or indirectly into TNW	7
high	(;	Wetland ty Wetland qu lity, bulrush-domin	nd Characteristics ze:275.933 acres pe. Explain: Emuality. Explain: Vanated wetland.	ergent and shrub-shrub	assessment performed); ranges f	rom grass/weed-dominated to
	(1	o) General Flow l	Relationship with			
			s: Overland shee stics: Seasonal flo	tflow ooding - high groundwa	ater.	
			w: Unknown . Extra other) test perform		roundwater occurs; flow charact	eristics are unknown.
	((☐ Directly ab ☐ Not directly ☐ Discret ☐ Ecolog	outting y abutting		ain: .	
	((Project waters Flow is from:	ds are 1-2 river m are 1 (or less) as Wetland to navig	iles from TNW. rial (straight) miles fro gable waters.	om TNW. e 100 - 500-year floodplain.	
	C		nd system (e.g., w ; etc.). Explain:	•	wn, oil film on surface; water qua	ality; general watershed
Him	[[alayan	Riparian buffer Vegetation typ blackberry (Rubus Habitat for: Federally L Fish/spawn Other envir	r. Characteristics pe/percent cover. s discolor) along s Listed species. Ex a areas. Explain fi	several ditch segments. cplain findings: . ndings: . tive species. Explain f	baceous ruderal and native hydro	ophytic species, with areas of
3.	Α	all wetland(s) being	g considered in th	to the tributary (if and the cumulative analysis: obtail are being consider		
	F	or each wetland, sp	pecify the follow	ing:		
		Directly abuts	? (Y/N) <u>Si</u>	ze (in acres)	Directly abuts? (Y/N)	Size (in acres)

Wetland 1 Y 275.933

Summarize overall biological, chemical and physical functions being performed: Majority of the project area is annually flooded with water from Mayberry Slough to create winter waterfowl habitat. A duck club tenant manages the seasonal flooding regime.

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.	11vvs and Adjacent vectands. 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: Surface water is pumped into the ditches (tributaries) seasonally, and site elevation is 9-19 ft. below msl therefore
	high groundwater is also an influence.
	ingli groundwater is also air influence.
	Provide action to far insidiational materials the action and (about a label and).
	Provide estimates for jurisdictional waters in the review area (check all that apply):
	☐ Tributary waters: 33,947 linear feet (varies) width (ft).
	Other non-wetland waters: acres.
	Identify type(s) of waters:
	3 31 (7)

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: Wetlands abut the RPWs (ditches) in the project area. The consultant's documentation, including representative site photographs, indicates lack of upland berms, etc. between RPWs and wetlands.
	Provide acreage estimates for jurisdictional wetlands in the review area: 275.933 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.	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).
SUC	CLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, GRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY CH 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:
Ide	ntify water body and summarize rationale supporting determination:
	vide 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: .

E.

 ⁸See 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.

	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.
	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: "Jurisdictional Delineation Map" as revised, dated August 20, 2008, prepared by Sycamore Environmental Consultants, Inc. 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: Online athttp://water.usgs.gov/wsc/reg/18.html. USGS NHD data. USGS 8 and 12 digit HUC maps. U.S. Geological Survey map(s). Cite scale & quad name: Antioch North and Jersey Island 7.5' quadrangles. USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey Geographic (SSURGO) database for the Sacramento County, California USDA Natural Resources Conservation Service. 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):Color aerial in delineation report dated 5/9/02. Corps office also referred to
	TerraServer.com aerial photographs dated 4/1/04, 5/1/05, 11/1/05, 5/1/06 and 4/1/07. or Other (Name & Date): Representative on-site photographs in delineation report, taken late April, 2008. Previous determination(s). File no. and date of response letter: Applicable/supporting case law: Applicable/supporting scientific literature: Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: .