AQUATIC RESOURCE SURVEY

For the

OLOWALU TOWN PROJECT

OLOWALU, WEST MAUI, HAWAII

By:

Robert W. Hobdy Environmental Consultant Kokomo, Maui May, 2011

> Prepared for: Olowalu Town, LLC

INTRODUCTION

The Olowalu Town Project lies on approximately 680 acres of land, TMK (2) 4-8-03:5 (por.), 10 (por.) in Olowalu and a small corner of Ukumehame in southwestern West Maui (see Figures 1 & 2). The property borders the shoreline setback and Honoapiilani Highway on the southwest side and rough mountainous lands on the north, east and south sides. This Aquatic Resources Survey was initiated at the recommendation of the U.S. Army Corps of Engineers to determine whether any wetlands, drainage ditches, gulches, gullies or streams in the project area might qualify as juridisctional Waters of the U.S. under provisions of the Rivers and Harbors Act (1899) or the Clean Water Act (1973).

SITE DESCRIPTION

This project area encompasses, in its entirety, a large alluvial fan two miles in width which was created over several millennia by the deposition of soil and rocks washed down the narrow 5.5 miles long Olowalu Canyon from the upper valley. On either side of Olowalu Stream several smaller rocky gulches drain the steep, dry forehills of the West Maui Mountains. At the toe of the alluvial fan a narrow coastal plain fringes the coastline.

Nearly the entire area was formerly farmed in sugar cane agriculture and had a network of access roads, reservoirs and irrigation ditches. Today the fields are fallow and are overgrown with dry grasslands and fast-growing trees. Soils vary considerably. The coastal strip is made up mostly of rough cobble beaches in the northern portion and fine gray sands in the southern portion. The fallow fields are deep, alluvial, silty-loams with abundant loose rock. The lower mountain slopes are rough, broken and stony land (Foote et al, 1972). Rainfall varies from about 13 inches per year near the coast up to about 20 inches per year on the lower slopes of the mountain with the bulk falling during the winter months (Armstrong, 1983).

During nearly 100 years of sugar cane agricultural development and management in Olowalu, many alterations were made to the physical landscape including clearing, access road development, plowing, planting and harvesting. No activity, however, had a greater impact than the diversion, storage and distribution of water resources for the irrigation of crops. An intake and ditch diverted water from Olowalu Stream, turning this perennial stream into a defacto intermittent stream that now only flows to the sea following significant rainfall events. Also a 4 - 6 foot high berm was created along the edges of Olowalu stream where it passes through the gentler slopes of the alluvial fan and the coastal plain. This berm was built to contain the flood waters generated by unusually large storms within the stream channel so that field crops would not be damaged. These berms also prevented sheet flow from gently sloping lands adjacent to the river from flowing into it in a natural way.

Ditch systems moved water across slopes in four elevational tiers to optimize crop coverage. These ditches captured water from small ephemeral stream gullies flowing into the project area from above as well as from the continuation of these gullies moving it laterally for irrigation purposes. This diversion of natural flow in combination with frequent plowing of the fields greatly obscured these ephemeral gullies or obliterated them entirely. While most of these ditches no longer carry irrigation water, they continue to divert ephemeral flow laterally in an unnatural way.

Finally, at two places on the nearly level coastal plain, drainage channels were excavated to move flood waters quickly off the fields and through culverts under the highway to the sea. One of these, situated alongside Kapä'iki village at Möpua near the southern end of the project, was also deeply excavated to lower a shallow water table under the village.

ANALYSIS AND RESULTS

Six aquatic features were identified within the project area. Each of these was analyzed according to U.S. Army Corps of Engineers guidelines to determine whether these aquatic features were jurisdictional waters of the U.S. The analysis follow the Corps' Approved Jurisdictional Determination Form. These six proposed determinations are here presented for Corps inspection and disposition.

LITERATURE CITED

Armstrong, R.W. 1983. Atlas of Hawaii, 2nd Edition. University of Hawaii Press, Honolulu.

Foote, D.E., E. I. Hill, S. Nakamura, F. Stevens. 1972. Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii. United States Department of Agriculture, Soil Conservation Service.

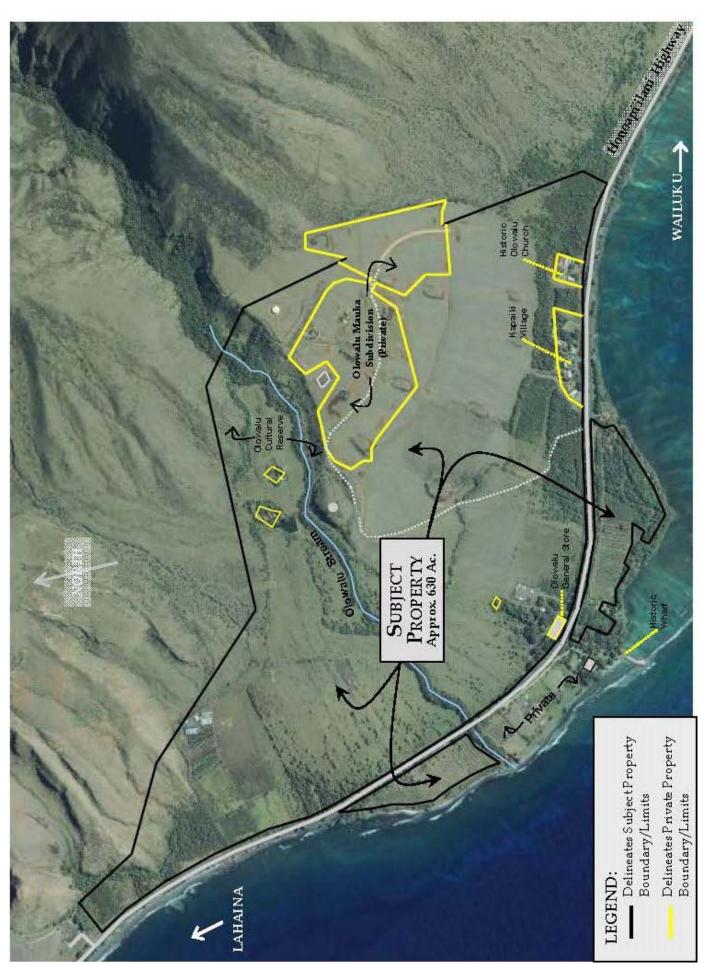


Figure 1 - Project Area

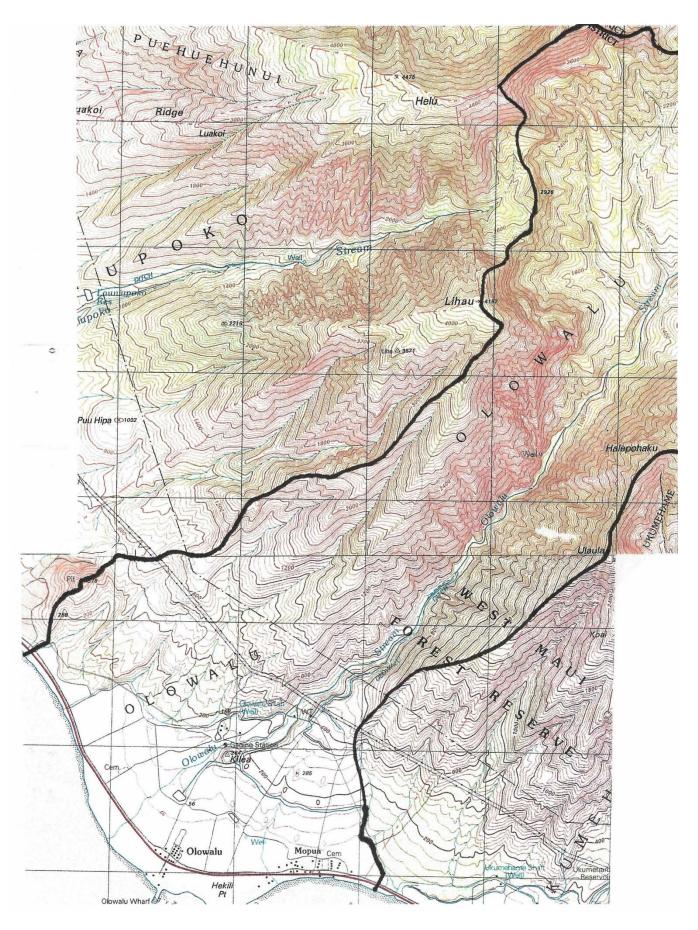


Figure 2 Combined watersheds of Tributaries

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

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

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State:Hawaii County/parish/borough: Maui City: Olowalu

Center coordinates of site (lat/long in degree decimal format): Lat. 20° N, Long. 156° W.

Universal Transverse Mercator: latitude 20.8226 N 156.6355 W

Name of nearest waterbody: Pacific Ocean

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

Name of watershed or Hydrologic Unit Code (HUC): Aquatic Resource 1-unnamed tributary

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):

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 "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
 - 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: yes linear feet: 1400 width (ft) and/or 4-6 feet width watershed of 98 acres. Wetlands: none acres.

c. Limits (boundaries) of jurisdiction based on: Not established at this time. Elevation of established OHWM (if known): Water course rocky and overgrown, no visible OHWM.

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

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

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.

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: N/A.

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": N/A.

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: inches Average annual snowfall: inches
- (ii) Physical Characteristics:

(a) <u>Relationship with TNW:</u>

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.

	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):
	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)	<u>Flow:</u> 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 changes in the character of soil shelving vegetation matted down, bent, or absent leaf litter disturbed or washed away sediment deposition water staining 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/characteristics tidal gauges other (list):
Cha Cha	emical Characteristics: racterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: ntify 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:
- П Habitat for:
 - Federally Listed species. Explain findings:
 Fish/spawn areas. Explain findings:

 - Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings:

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

Physical Characteristics: (i)

- (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

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

For each wetland, specify the following:

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

Directly abuts? (Y/N)

Size (in acres)

6

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:This ephemeral stream flows from a dry rocky gulch with a watershed of 98 acres and an annual rainfall of 13 15 inches. The relevant reach extends from the Pacific ocean upstream 1400 feet to the next stream branch. Winter storms bring rainfall sufficient to make it run for two to three days, two or three times a year. The water exits the rocky gulch on to a narrow coastal plain where it spreads out and temporarily floods for 4 6 days per occurrence until it is absorbed into the ground or flows through a 24 inch culvert under Honoapiilani Hwy to the sea. The soil dries up between flooding events as the water table is more than three feet below the surface. This stream is small and ephemeral but it has the capacity to carry pollutants and flood waters before they enter the TNW. The small flood plain also has the capacity to filter out some of such pollutants from the flood waters before they enter the TNW. This small stream demonstrates a clear nexus with the Pacific ocean and is thus determined to be a Jurisdictional Waters of the U.S.
- 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):

- 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" (c.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:

. 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: 1400 linear feet 4-6 width (ft).
- Other non-wetland waters: NO 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

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

⁸See Footnote # 3.

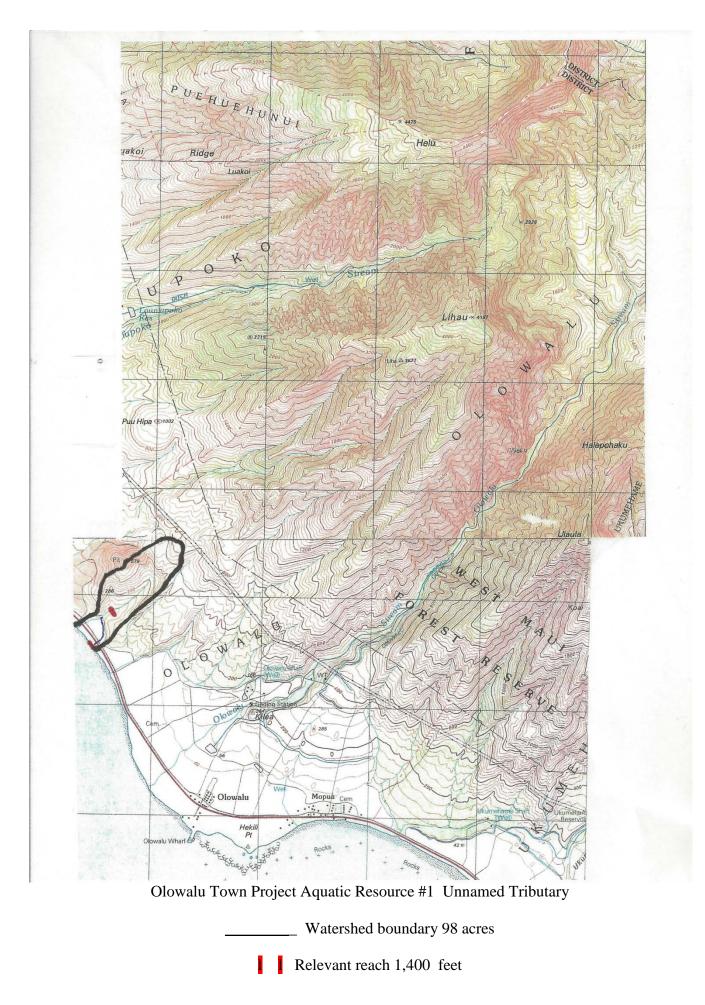
⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

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.

	 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: 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).
	 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.
SEC	TION IV: DATA SOURCES.
A. 1	UPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked
Α.	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):
А.	and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map.
А.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. Data sheets prepared/submitted by or on behalf of the applicant/consultant.
А.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. Data sheets prepared/submitted by or on behalf of the applicant/consultant. Office concurs with data sheets/delineation report.
А.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. Data sheets prepared/submitted by or on behalf of the applicant/consultant.
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Α.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. 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:
Α.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. Data sheets prepared/submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. 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 8 and 12 digit HUC maps. U.S. Geological Survey map(s). Cite scale & quad name: USDA Natural Resources Conservation Service Soil Survey. Citation:
Α.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. 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:
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Α.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. 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 8 and 12 digit HUC maps. USDA Natural Resources Conservation Service Soil Survey. Citation: National wetlands inventory map(s). Cite name:Hawaii. State/Local wetland inventory map(s): FEMA/FIRM maps: 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
Α.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. 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. USDA Natural Resources Conservation Service Soil Survey. Citation: National wetlands inventory map(s). Cite name:Hawaii. State/Local wetland inventory map(s): FEEMA/FIRM maps: 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929) Photographs: Acrial (Name & Date):
Α.	 and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. 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 8 and 12 digit HUC maps. USDA Natural Resources Conservation Service Soil Survey. Citation: National wetlands inventory map(s). Cite name:Hawaii. State/Local wetland inventory map(s): FEMA/FIRM maps: 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

Applicable/supporting case law: Applicable/supporting scientific literature: Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:







#1 – a A small 98 acre watershed in dry area, stream is ephemeral, stream bed is rocky and overgrown with no discernable OHWM



#1 – b Two 24 inch culverts drain a small coastal plain under Honoapiilani Highway



#1-c Culverts deliver water to rocky shoreline



#1 – d Storm waters flow directly into the ocean

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):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

City: Olowalu State:Hawaii County/parish/borough: Maui Center coordinates of site (lat/long in degree decimal format): Lat. N20° Pick List, Long. 156° W. Universal Transverse Mercator: 20.8133 N 156.6361 W

Name of nearest waterbody: Pacific Ocean

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pacific Ocean Name of watershed or Hydrologic Unit Code (HUC): Aquatic Resource #2-unnamed tributary

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):

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 "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
 - 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: yes linear feet: 2100 6 - 8 feet width (ft) and/or watershed of 750 acres. Wetlands: acres.
- c. Limits (boundaries) of jurisdiction based on: Established by OHWM. Elevation of established OHWM (if known): approximately 10 inches (see attached photos).

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

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

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).

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

Supporting documentation is presented in Section III.F.

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: N/A.

Summarize rationale supporting determination:

 Wetland adjacent to TNW Summarize rationale supporting conclusion that wetland is "adjacent": N/A.

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 rain	nfall: inch	es
Average annual sno	wfall: inc	hes

(ii) Physical Characteristics: (a) Relationship with TNV

 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.

(0)	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: fcet 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:
	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
	 shelving 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:
	 High Tide Line indicated by: indicated by:
	fine shell or debris deposits (foreshore) physical markings;
	physical markings/characteristics vegetation lines/changes in vegetation types.
	☐ tidal gauges ☐ other (list):
	emical Characteristics:
Cha	racterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
	Explain: . ntify 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: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) <u>General Flow Relationship with Non-TNW</u>: 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:

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:

identity specific polidiants, it 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)

6

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: This ephemeral stream flows from 7 dry rocky gulches and gullies with a combined watershed size of 750 acres and annual rainfall ranging from 13 inches near the bottom up to about 60 inches at the top at 3,600 feet elevation. These 7 gulches come together near the bottom of the slope at the upper end of the relevant reach which extends 2,100 feet down to the Pacific Ocean. Winter storms bring rainfall sufficient to make this tributary run for 2 to 3 days, 2 or 3 times a year. The water exits the rocky gulches onto a narrow coastal plain where it spreads out and temporarily floods for 4 6 days per occurance until it is absorbed into the ground or flows down a 5 foot deep excavated earthen channel and through an 8 foot wide cement box culvert under Honoapiilani Hwy to the Pacific Ocean. The soil dries up between flooding events as the water table is more than 3 feet below the surface. This stream is ephemeral but it has the capacity to carry pollutants and flood waters before they enter the TNW. This stream demonstrates a clear nexus with the Pacific Ocean and is thus determined to be a Jurisdictional Waters of the U.S.
- 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):

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.

- 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:

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

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: 2100 linear feet 6-8 width (ft).
- - Identify type(s) of waters:

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.

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.

- 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.

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

8See Footnote # 3.

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

	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: 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.
SE	CTION 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:U.S.G.S. Olowalu Quad Map.
	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:
	USDA Natural Resources Conservation Service Soil Survey. Citation:
	National wetlands inventory map(s). Cite name:Hawaii.
	State/Local wetland inventory map(s):
	FEMA/FIRM maps:
	100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

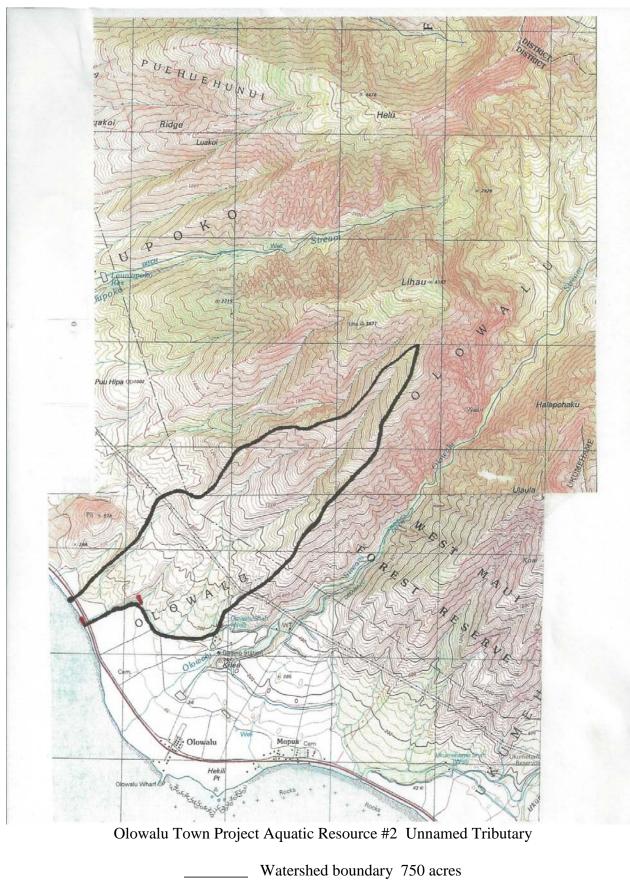
Photographs: Aerial (Name & Date):

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will clevate 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.

or 🖾 Other (Name & Date):(see attached).

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:



Relevant reach 2,100 feet



#2a One of seven dry gulches that feed into a single outlet



#2b A second dry rocky gulch that feeds into a single outlet. OHWM shown



#2c Streambed created by the combined flow from four small gulches. This location is at the upper relevant reach of this aquatic feature. OHWM shown



#2d Combined flow from all seven gulches runs through this box culvert and under Honoapiilani Highway



#2e Box culvert exits onto rocky shoreline



#2f Storm flow with OHWM shown runs directly into the ocean

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):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State:Hawaii County/parish/borough: Maui City: Olowalu

Center coordinates of site (lat/long in degree decimal format): Lat. 20° N, Long. 156° W.

Universal Transverse Mercator: 20.8076 N 156.6299 W

Name of nearest waterbody: Pacific Ocean

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

Name of watershed or Hydrologic Unit Code (HUC): Aquatic Resource #3 Olowalu Stream

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

 \boxtimes 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):

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 "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 \boxtimes
 - 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: Yes linear feet: 4 miles 15 - 20 width (ft) and/or watershed of 2,800 acres. Wetlands: acres.
- c. Limits (boundaries) of jurisdiction based on: Established by OHWM. Elevation of established OHWM (if known): approximately 18 inches.
- 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:

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.

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: N/A.

Summarize rationale supporting determination:

Wetland adjacent to TNW Summarize rationale supporting conclusion that wetland is "adjacent": N/A.

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: 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: Image: Display is and iteration in the second se
	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 Cobbles Gravel 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 OHWM ⁶ (check all indicators that apply): elar, natural line impressed on the bank betwing elar, in the character of soil elar hiter down, bent, or absent seliment deposition multiple observed or predicted flow events water staining elar litter disturbed or washed away scour multiple observed or predicted flow events 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: oil or scum line along shore objects fine shell or debris deposits (foreshore) physical markings/characteristics tidal gauges other (list):
Ch	emical Characteristics: aracterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: ntify 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. ²Ibid.

(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

Physical Characteristics: (i)

- (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
 - - 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):
- Π 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:

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

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

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

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):

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: Olowalu Stream is a perrenial stream that flows from deep in the West Maui mountains to the Pacific Ocean. Its total length is 5.5 miles and its watershed size is 2,800 acres. The upper valley is a broad bowl where the annual rainfall is 150 inches. The middle valley is constricted into a narrow canyon and the lower stream course breaks out onto the alluvial fan and coastal plain where the annual rainfall averages about 13 inches. The relevant reach of this stream extends 4 miles from the ocean up to the first significant branch in the upper valley. The stream was once a perrenial stream with year round flow to the ocean, but a diversion was built at the 520 foot elevation prior to 1930 that carried a significant portion of this flow to an irrigation system of ditches and reservoirs for sugarcane fields below. The reduced flow of Olowalu Stream

changed it into a Relatively Permanent Water with only seasonal flow. The diversion is still in use even though sugarcane production was phased out in 1992. The water is now used to supply a domestic water system and some feeds a cultural taro agricultural project in the valley bottom. None of this diverted water reaches the ocean. Olowalu Stream runs to the ocean for one to two weeks several times a year when storm waters in the upper valley overtop the intake spillway. Without the diversion this stream would undoubtedly flow continuously to the ocean. Olowalu Stream qualifies as an RPW that flows directly into a TNW and is therefore automatically a Jurisdictional Waters of the U.S.

- 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: 4 miles linear feet 15 - 20 feet width (ft).
 - Other non-wetland waters: acres.
 - Identify type(s) of waters:

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

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): acres

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

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:
- Uketlands 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.

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

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.

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.

Impoundments of jurisdictional waters.9 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).

⁸See Footnote # 3.

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

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 forcign travelers for recreational or other purposes. from which fish or shellfish are or could be taken and sold in interstate or forcign 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 <u>sole</u> 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: .
	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.
SEG	CTION IV: DATA SOURCES.
4.	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:U.S.G.S. Olowalu Quad Map. Data sheets prepared/submitted by or on behalf of the applicant/consultant:U.S.G.S. Olowalu Quad Map. 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. USDA Natural Resources Conservation Service Soil Survey. Citation: National wetlands inventory map(s). State/Local wetland inventory map(s):

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.

(National Geodectic Vertical Datum of 1929)

B. ADDITIONAL COMMENTS TO SUPPORT JD: