



US Army Corps  
of Engineers®  
Walla Walla District

# DRAFT/FINAL AQUATIC RESOURCE DELINEATION REPORT

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**Survey Name**  
**Date report completed**

**Prepared by**  
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## Report Summary

- One paragraph summary of aquatic resource findings including:
  - Number and total area of aquatic resources within project area.
  - Total acreage of the survey area
  - Dominant aquatic resource classification(s) and general condition of aquatic resource(s).

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## Acronyms and Abbreviations

BMP	best management practice
cfs	cubic feet per second
DA	Department of the Army
LIDAR	light detection and ranging
LWD	large woody debris
MP	mile post
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OHWM	ordinary high water mark
PEM	palustrine emergent
PFO	palustrine forested
PSS	palustrine scrub-shrub
ROW	right-of-way
SR	State Route
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UTM	Universal Transverse Mercator coordinate system
WRIA	Water Resource Inventory Area

[add or delete acronyms and abbreviations as needed]

## 1.0 Introduction

Provide the purpose for the delineation (e.g. for use in a preliminary jurisdictional determination, approved jurisdiction determination, pre-application consultation, or Department of the Army (DA) permit).

### 1.0.1 Contact Information

Identify contact information for the applicant(s), property owner(s), and agent(s), including physical mailing address(es), phone number(s) and email(s) for each.

### 1.0.2 Survey area location

Provide directions to the survey area and the latitude and longitude of the center point of the survey area. See location map (Appendix A) which clearly identifies the area surveyed.

## 2.0 Methods

If wetlands were included in the delineation provide a statement that the delineation has been conducted in accordance with the [1987 Corps of Engineers Wetlands Delineation Manual](#) and the appropriate regional supplement(s), such as the [Western Mountains Valleys and Coast Region, May 2010](#) and/or [Arid West, September 2008](#).

If non-wetland aquatic resources (e.g. rivers, streams, lakes, drains, canals and ditches) were delineated, provide a statement that the ordinary high water mark (OHWM) delineations were conducted using the appropriate OHWM characteristics, as defined in [33 CFR § 328.3\(e\) and 33 CFR § 329.11\(a\)\(1\)](#). If applicable, provide the regional supplement(s) used for the delineation, such as the [Arid West Guide to the Identification of the OHWM \(Lichvar and McColley 2008\)](#) and [Western Mountains, Valleys, and Coast Guide to OHWM Delineation for Non-perennial Streams \(Mersel and Lichvar 2014\)](#).

Describe the techniques implemented during the field analysis which lead to the delineation boundaries defined in the report (e.g. changes in topography, soil sample pits, distinctive vegetation changes, and/or observed hydrology). Identify and provide rationale, for areas where no data was collected.

Explain the method used to record the on-site delineation, such as GPS equipment capable of sub-meter accuracy marked the physical contour of each aquatic resource and/or flagging was used to mark the aquatic resource features. List remote sensing maps that were utilized to identify potential aquatic resources and their boundaries, see supplementary maps (Appendix D).

Describe whether the delineation methodology used was routine, comprehensive, or atypical, or if “Difficult Wetland Situations” procedures were used, provide the rationale for their use. Explain any deviations from standard U.S. Army Corps of Engineers Guidelines.

## 3.0 Existing Conditions

Provide a statement describing the existing field conditions. The field condition description should include recent meteorological conditions, flood/drought conditions, current land use or possibly the site topography, geological features, major water bodies, surface water flow, vegetative community types.

Provide a brief summary of alterations to hydrology, soils, or vegetation, either recent or historical such as logging, mining, farming or irrigation practices; livestock use or grazing; and atypical site conditions such as modifications to the site (e.g. constructed drains, tilling or drainage ditches).

Provide [FEMA flood plain mapping](#), [USGS stream gauge data](#), [USGS topographical maps](#), remote sensing maps (e.g. LiDAR, Color Infrared) (see supplementary maps (Appendix D)), and/or precipitation records (e.g. [NRCS WETS table data](#)) (see supplementary data (Appendix E)).

#### 4.0 Aquatic Resources

Provide a statement describing the aquatic resource(s) within the survey area and an explanation for the mapped boundaries, especially for resources containing complex transition zones. Provide a statement describing the quality of the wetlands found in the survey area.

Provide photographs of potential wetland(s) which only meet one or two wetland criteria. Provide a brief narrative explaining the wetland criteria that was not met. If a stream resource does not exhibit a clear OHWM, describe the rationale for not delineating these features (e.g. erosional features, upland swales) and include photographs of the feature.

##### 4.0.1 Aquatic Resources Table

List all aquatic resources within the survey area.

Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acres) For all aquatic resource features	Aquatic Resource Length (linear feet) For ditches, canals stream, river features
	Cowardin	Location (lat/long)		
<b>Total</b>				

##### 4.0.2 Non-jurisdictional Aquatic Resources

If the delineator believes one or more aquatic resources are not jurisdictional, the rationale should be included in a separate section the delineation report and the aquatic resource(s) should be identified on a separate map labeled: Suspected non-jurisdictional aquatic resources.

### 4.0.3 Hydrology

Provide a statement describing the hydrology at the site, including all known surface or subsurface sources, drainage gradients. The statement should identify the surface water connections flowing into or out of the survey area/parcel. The statement should include any manmade alterations which may influence the hydrology at the site (e.g. irrigation waters, drainage ditches). The statement should also identify the nearest aquatic resource found on the most recent USGS topographic map, see supplementary maps (Appendix D).

If applicable, provide the hydrological monitoring data of highly disturbed or problematic sites. All monitoring wells used to facilitate wetland hydrology determinations must be installed in accordance with the guidelines in the [Technical Standard for Water-Table Monitoring of Potential Wetland Sites](#), ERDC-TN-WRAP-05-2, U.S. Army Research and Development Center, Vicksburg, MS.

### 4.0.4 Vegetation

Provide a statement describing the plant communities present within the survey area. See the supplementary maps (Appendix D) for the [National Wetland Inventory](#) map (NWI) of the survey area.

### 4.0.5 Soils

Provide a statement describing the soils present within the survey area and a discussion of hydric soils and non-hydric soils within the survey area. See the supplementary maps (Appendix D) for the [USDA web soil survey map](#) of the surveyed area. The soils map must include the associated soils table with map unit symbol, soil name/unit name, and acreage.

### 4.0.6 Wetland Determination Data Forms

Provide the wetland determination data form(s) from the current regional supplement, see (Appendix C). All fields of the wetland determination data form(s) should be completed including the date(s) data was collected, scientific names of dominant plants species found in the survey area, the wetland indicator status of each plant using the most recent [National Plant List](#), and any secondary indicators, if present.

## 5.0 References

Site the references used for the delineation report, See the example below:

Books, Journal Articles, Reports: [Author(s). YEAR Title. Publisher/Source. Volume: Page begin-Page end].

Correspondence: [Author(s). Date. Subject. Agency/Company. Pp. (pages)].

Phone: [Contact Name. Date. Subject. Agency/Company. Phone Number. Result/Action].

E-mail: [Contact Name. Date. Subject. Agency/Company. E-mail address. Result/Action].

## Appendix A

### Location Map(s)

- Maps created for the delineation report must include the date prepared or revised, legend, scale, and north arrow. When applicable provide reference elevation datum (e.g. North American Vertical Datum of 1988) and imagery date.
- Location map of the survey area. The map must clearly identify the area surveyed.

Sample survey area map below:

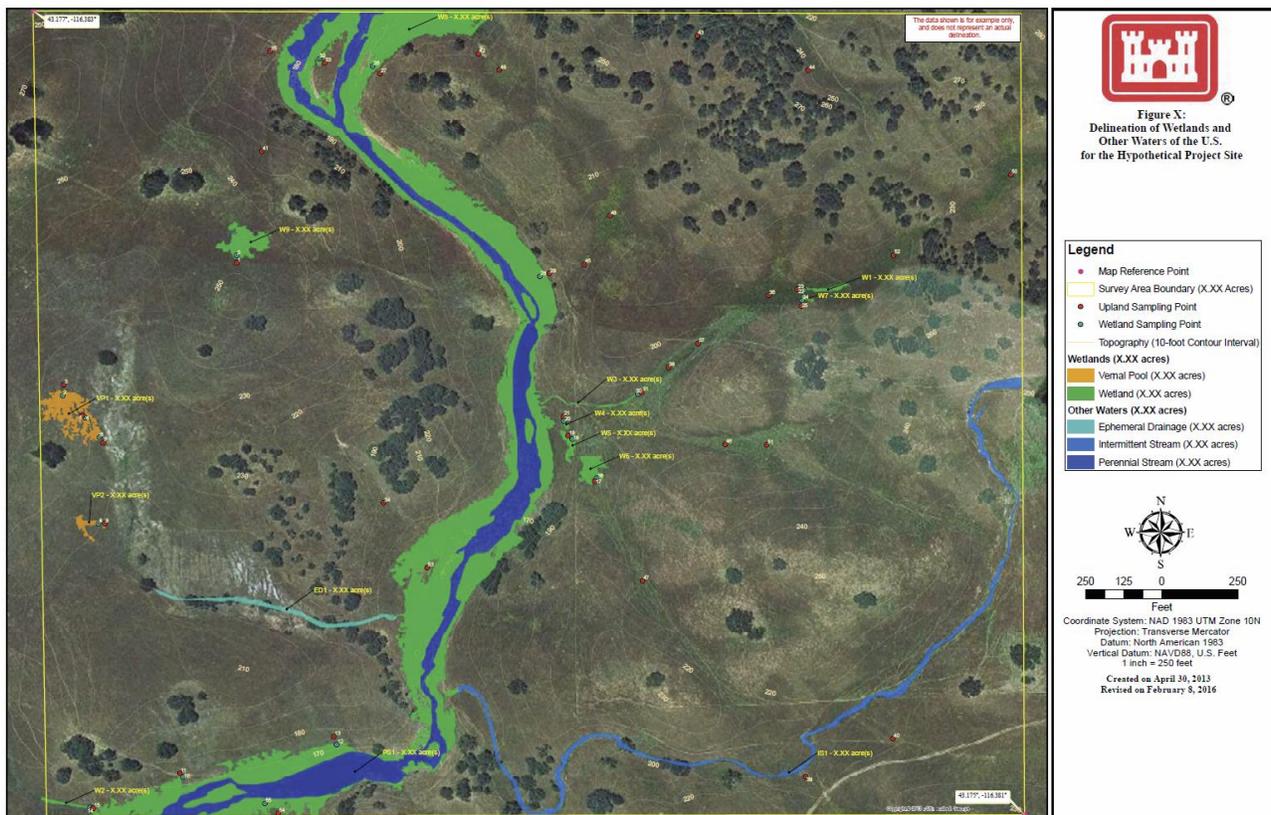


## Appendix B

### Aquatic Resource(s) Map(s)

- Maps created for the delineation report must include the date prepared or revised, legend, scale, and north arrow. When applicable provide reference elevation datum (e.g. North American Vertical Datum of 1988) and imagery date.
- All delineated aquatic resources (e.g. rivers, streams, ditches, canals, and wetlands) must be clearly shown on the map. Only the Corps determines the jurisdictional status of each aquatic resource, the map should not include any labeling about jurisdiction.
- Wetland aquatic resources: At least one set of paired data points for each wetland boundary must be shown on the map. The paired data points must be located close to the delineated boundary. Additional data points/transects may be required, depending on various factors including the size and shape of the aquatic resource, changes in vegetation communities, and site topography or slope. The additional data points/transects should be shown on the map. Transects shall be in accordance to [Part IV, Sections D and E of the 1987 Corps of Engineers Wetlands Delineation Manual](#).
- Non-wetland aquatic resources: The map must clearly show the OHWM delineation for each aquatic resource (e.g. rivers, streams, lakes, drains, canals and ditches).
- A reference block that identifies the site name and organization or individuals who conducted the delineation.

Sample Aquatic Resources map below:



## Appendix C

### Wetland Determination Data Forms

Western Mountains Valleys and Coast data form:

<https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7629>

Arid West data form:

<https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7598>

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## Appendix D

### Supplementary Map(s)

- Maps created for the delineation report must include the date prepared or revised, legend, scale, and north arrow. When applicable provide reference elevation datum (e.g. North American Vertical Datum of 1988) and imagery date.
- If the delineator believes one or more aquatic resources are not jurisdictional, the rationale should be included in the delineation report and the aquatic resource(s) should be identified on a separate map labeled: Suspected non-jurisdictional aquatic resources.

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# Appendix E

## Supplementary Data

- Electronic file of geographic information (e.g. ESRI shape-files, Google Earth KMZ/KML file) for the site, including the metadata file with the geographic coordinate system, projection, and datum for the aquatic resource boundaries and data point locations.
- Other Supplementary data examples: NRCS WETS table

WETS Table

WETS Station: BONNERS FERRY, ID								
Requested years: 1971 - 2000								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	33.1	20.2	26.6	2.64	1.63	3.19	7	18.2
Feb	39.2	24.2	31.7	1.79	1.16	2.16	6	10.0
Mar	49.3	28.8	39.0	1.51	0.97	1.82	5	4.1
Apr	60.4	34.3	47.3	1.42	0.89	1.72	4	0.4
May	69.3	41.2	55.2	1.76	1.11	2.12	5	0.0
Jun	76.0	47.3	61.6	1.62	1.09	1.94	5	0.0
Jul	83.2	50.4	66.8	1.03	0.59	1.24	3	0.0
Aug	83.4	49.6	66.5	1.07	0.50	1.31	3	0.0
Sep	72.4	41.6	57.0	1.16	0.60	1.42	4	0.0
Oct	57.2	33.6	45.4	1.61	0.81	1.97	5	0.5
Nov	41.1	28.1	34.6	3.01	1.85	3.65	8	8.1
Dec	33.4	21.7	27.6	2.95	1.97	3.54	8	19.7
Annual:					18.77	23.73		
Average	58.2	35.1	45.6	-	-	-	-	-
Total	-	-	-	21.58			64	61.0

GROWING SEASON DATES

Years with missing data:	24 deg = 3	28 deg = 1	32 deg = 0
Years with no occurrence:	24 deg = 0	28 deg = 0	32 deg = 0
Data years used:	24 deg = 27	28 deg = 29	32 deg = 30
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	4/5 to 10/17: 195 days	4/22 to 10/1: 162 days	5/18 to 9/21: 126 days
70 percent *	3/30 to 10/24: 208 days	4/17 to 10/7: 173 days	5/12 to 9/28: 139 days

\* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)

Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1907					1.67	2.24	2.05	2.65	2.31	0.31	2.42	2.32	15.97
1908	1.60	2.29	1.96	1.65	2.26	2.11	0.64	0.47	0.28	2.56	1.44	2.31	19.57
1909	5.34	0.83	0.18	0.37	1.60	1.47	2.25	0.13	1.46	1.43	5.38	1.93	22.37
1910	1.73	1.54	1.13	1.60	1.82	1.37	0.46	0.49	2.71	3.15	4.01	2.22	22.23
1911	2.20	0.80	0.89	0.71	2.37	1.51	0.15	2.17	2.20	0.16	2.78	0.57	16.51
1912	1.93	0.90	0.82	1.37	1.47	3.33	1.83	2.44		2.82	4.45	1.39	22.75
1913	3.15	0.57	0.62	0.00	2.09	2.61	1.13	1.09	1.14	0.96	5.11	0.60	18.47
1914	4.11	0.55	1.81	T	1.63	1.39	1.47	0.58	2.22	2.70	1.20	1.73	19.39
1915	1.31	0.83	0.23	1.90	3.30	1.23	2.80	0.03	0.	1.	3.22	4.09	21.