

U.S. Army Corps of Engineers Wyoming Regulatory Office Documentation for an Aquatic Resources Inventory

This document provides guidance on methods and documentation requirements for delineations of special aquatic sites and other waters of the U.S., hereafter referred to as an Aquatic Resources Inventory (ARI). Nationwide permit authorizations require an ARI as a component of any pre-construction notification (PCN) as defined under General Condition 31(b)(4). An ARI is also necessary for processing standard (individual) permit evaluations and most approved jurisdictional determinations.

The Wyoming Regulatory Office is providing this guidance to update and clarify guidance provided in the November 15, 1996 Letter to Wetland Delineation Consultants, and to improve the quality and consistency of aquatic resource inventories and reporting.

The following paragraphs define some important criteria for conducting an ARI and minimum documentation requirements in a report:

1. Research existing information such as topographic maps, color infrared (CIR) imagery, true color imagery, and the National Wetland Inventory (NWI) prior to field surveys to identify locations of potential wetlands and other surface waters. Recent CIR imagery (2009) is most useful as a predictor of potential wetland. Red or pink areas in an otherwise arid environment, combined with topographic position can effectively help predict where wetland may occur. These potential wetland areas along with features identified by the NWI should be visited, sampled, and documented to *confirm presence or absence* of wetland and other aquatic resources.
2. Identify and document all aquatic resources types. For example, wetlands that exhibit characteristics such as marsh, wet meadow, peatland, scrub-shrub, or forest; streams that are ephemeral, intermittent, or perennial; other non-wetland surface waters that are playas, ponds, reservoirs, irrigation ditches, and canals. No aquatic resource should be excluded due to apparent isolation or agricultural affiliation. However, documentation of physical characteristics, hydrologic influences, and uses is recommended.
3. Wetlands are considered special aquatic sites and must be delineated in accordance with specific requirements. Appropriate wetland delineation documentation includes:
 - Use of the Corps of Engineers Wetland Delineation Manual as the baseline guidance document for wetland delineations.
 - Application of the *current* methodology from the appropriate Regional Supplement to the Corps of Engineers Wetland Delineation Manual.
 - *Complete and accurate* Wetland Determination Data Forms from the appropriate regional supplement documenting presence or absence of a wetland. Other formats are not acceptable. A plant community type must be adequately characterized within each wetland area (polygon). Transitional and irregular wetland boundaries should be delineated using a

paired sampling technique where at least two sample points and data forms are completed to confirm the boundary between wetland and non-wetland. The intensity and sample adequacy will vary depending on the complexity and size of the wetland. Only small uniform wetlands with distinct boundaries would result in one sample point and data form per polygon. Use the Remarks Section to describe conditions that support sampling decisions. A unique label must be on the form to identify each sample location and polygon.

- The use of a global positioning system (GPS) device is recommended to accurately map wetland boundaries.
- Appropriately sized and labeled photographs of each wetland and sample location with one photo focusing in on the soil profile and pit.
- An appropriately scaled map of the project area showing labeled wetland sample locations, photo points, and delineated wetland boundaries.
- The area (acres or square feet) and classification of each wetland polygon, preferably based on the Cowardin method.

4. Evaluate any landscape feature that potentially holds or conveys water. This includes features often depicted on a topographic map as a blue line, including ephemeral streams, irrigation ditches, and canals, as well as other surface water features such as ponds, lakes, playas, and saline flats. Appropriate documentation for other surface waters includes:

- In field confirmation and documentation of the presence or absence of other surface water features through identification of an ordinary high water mark (OHWM), as defined in 33 CFR 328.3(e).
- Photographs and a brief description of each feature identifying physical indicators of an OHWM, length and width of the channel or the area of the water body below the OHWM, and past or current hydrology (i.e., direction, duration, frequency and volume of flow). Multiple photo points may be needed to document changes in the OHWM or lack thereof within ephemeral waterways or along a discontinuous channel, especially in large project areas.
- A map showing the location and approximate boundaries of each uniquely labeled feature, as well as associated photo points.

5. Display the ARI results on a legible map(s) identifying the location, wetland boundary or OHWM, with a unique label for each feature within the clearly defined project area boundary. The location and label of all sample, observation and photo points must also be displayed. Aerial and topographic backgrounds are common. Ledger size (11" x 17") formatting is helpful.

6. Provide a table summarizing the classification and area of each unique feature corresponding to labels on the map. Each feature should be listed and described; avoid lumping of similar types and related features. Features in the table should be systematically organized to facilitate additional analysis and impact reporting.

The following is an example of a table that would consolidate ARI information and expedite our evaluation process:

Unique AR Feature label	Sample point IDs	Aquatic Resource Type	Cowardin Classification	Area (acres)	Of Note: (e.g., dominant spp., OHWM indicators, problematic veg, name, use, or channel LxW)	Photos
W4	D7, D8, D9, D10	scrub-shrub wetland	PSSEb	0.13	beaver dam; Alnus incana/Salix boothii	P7, P8
S5	n/a	irrigation ditch	R4UBx	0.007	Coulder Ditch; flows May- Sept.; 150' x 2'	P9, P10

7. Both paper and digital format copies of the ARI report and supplemental materials are appreciated. Specific digital formatting specifications for maps and tables may be requested for more complex projects or those requiring an approved jurisdictional determination.

8. A functional assessment, using an approved methodology, may be required for any project involving forested wetlands, peatland wetlands, a standard (individual) permit, or mitigation banking, and may be required for other projects. Collecting data that could be used in a functional assessment is encouraged. Persons can also contact the Wyoming Regulatory Office and seek guidance on functional assessment requirements for specific projects prior to conducting field surveys.

A copy of this document and other resources referenced above can be found on the Wyoming Regulatory Office Website:

<http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/Wyoming.aspx>