

Updated Wetland Mapping Protocol

The Natural Resources Inventory (NRI) was adopted in 2012 as factual basis for the Comprehensive Plan 2035. The NRI included the Wetland Data Refinement Project, which refined wetland maps throughout Portland based on a consistent methodology. The Wetland Data Refinement Project is included in the appendices of the adopted NRI.

The wetland mapping protocol outlined in this memo builds on the Wetland Data Refinement Project to include additional mapping methodologies for performing on-site and off-site wetland determinations. Updates to the wetland data were led by staff from the Bureau of Environmental Services and their consultant.

The information was used to begin the wetland mapping updates included:

- A. Source Wetland Polygons:
 - 1. City of Portland (COP) GIS wetland shapefile
 - a. Each wetland polygon (i.e., feature) was categorized as *high*, *moderate*, or *low* confidence in mapping veracity based on the feature's source identified in the layer's attribute table. Sources labeled as *DSL Permit*, *Field Survey*, or *Land Use Review* were categorized as *high* confidence. Sources labeled as *LiDAR* or *Aerial Photo* were categorized as *moderate* confidence. Sources labeled as *<Null>* were categorized as *low* confidence.
 - 2. National Wetland Inventory (excluding features with riverine classification)
 - a. Categorized as *low* confidence
 - 3. Potential Wetlands. General areas identified by Bureau of Environmental Services and Portland Parks as potential wetlands based on existing knowledge and remote sensing data.
 - a. Categorized as *low* confidence
- B. Map Features Associated with Aquatic Resources:
 - 1. U.S. Department of Agriculture Natural Resource Conservation Service Soil Survey Hydric and Partially Hydric Soil Unit shapefile
 - 2. COP streams shapefile
 - 3. COP waterbodies shapefile
- C. Additional Map Features
 - 1. LiDAR Topographic Data
 - 2. Taxlot shapefile
 - 3. Public properties shapefile

WETLAND DETERMINATION METHODS

Each source wetland polygon was assigned a unique number. All properties with source wetland polygons were sent a request for entry to perform a field determination. Priority was given to verifying source wetland polygons categorized as *low* or *moderate* confidence. Source wetlands categorized as *high* confidence were investigated in the field to the extent practical but were generally deferred. Hydric soil units, low topographic positions within partially hydric soil units, and COP stream and waterbody layers were investigated in the field to the extent practical. The presence or absence and approximate boundary of wetlands were then determined using the following determination methods:

1. **Field-verified Determinations.** Used for sites where property access was granted or where the site conditions are visible from a right-of-way or abutting property with granted access. Field determinations were performed by an qualified wetland scientist.
 - 1.1. Accessible areas.
 - 1.1.1. Corps wetland determination sample plot; *or*
 - 1.1.2. For small wetlands (less than ½ acre) in natural areas with hydrophytes contributing greater than 50% relative plant cover - referencing a sample plot at the same site, in a similar habitat and setting that exhibits the same wetland hydrology. Documented in GIS through notes and photos; *or*
 - 1.1.3. Observations of obligate (OBL) vegetation communities (e.g., cattails, skunk cabbage, water parsley, tule, spikerush, paleyellow iris, marsh seedbox). Documented in GIS through notes and photos. Does not include commonly planted OBL species such as slough sedge; *or*
 - 1.1.4. Observations of direct or indirect primary indicators of inundation or saturation **and** OBL to facultative wetland (FACW) vegetation communities. Documented in GIS through notes and photos.
 - 1.2. Inaccessible areas. Included areas where access was authorized but precluded thorough investigation due to State Historic Preservation Offices regulations, impenetrable vegetation, steep slopes, deep water, unauthorized camps, trash or contamination including sharps, or otherwise unsafe working conditions. This determination method also applied to areas where access was not authorized, but visual confirmation was possible from a right-of-way or abutting property with granted access.
 - 1.2.1. Any method for accessible sites; *or*
 - 1.2.2. Direct observations of inundation or saturation during normal climatic and hydrologic conditions **and** OBL to facultative (FAC) vegetation communities. Documented in GIS through notes and photos.
2. **Offsite Determinations.** When site access to perform a field-verified determination was not granted and visual confirmation was not possible from a property with right-of-way or abutting property with granted access, an offsite determination was performed by an qualified wetland scientist.
 - 2.1. **Wetland Assumption.** Wetlands were assumed to exist if any of the following conditions exist:
 - 2.1.1. Wetlands are shown on a map from a qualified source. Qualified sources include City of Portland land use and permit reviews and/or wetland delineations, Department of State Lands permits and/or concurrences, U.S. Army Corps of Engineers permits and/or concurrences, and environmental consultants' maps; *or*
 - 2.1.2. Wetlands are shown on the NWI or other wetland maps, **and** hydric soil or a soil with hydric soil inclusions is shown on the soil survey (i.e., NWI + Hydric/Partially Hydric Soil Units); *or*

- 2.1.3. Hydric soil or a soil with hydric soil inclusions is shown on the soil survey, *and* site-specific information confirms hydrophytic vegetation, hydric soils, and/or wetland hydrology (i.e., Hydric/Partially Hydric Soil Units + Site-specific info confirms 1 criterion of a wetland); *or*
- 2.1.4. Signs of wetland are detected by reviewing aerial photos; *or*
- 2.1.5. Any combination of the above or parts thereof (e.g., vegetated wetland on NWI maps + signs of wetland on aerial photos)