

Wetland and Stream Delineation Common Problem Areas and Lessons Learned (What's up on the Ground)

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Summary of Presentation

- ▶ **Background on Clean Water Act (CWA)**
- ▶ **Common problem wetland and stream areas**
- ▶ **Ways to limit your exposure to risk**
- ▶ **Case studies**
- ▶ **Lessons learned**
- ▶ **Other compliance considerations**
 - Endangered Species Act
 - National Historic Preservation Act

Federal Clean Water Act (CWA) & Section 10 of the Rivers and Harbors Act

► Federal Water Pollution Control Act Amendments of 1972

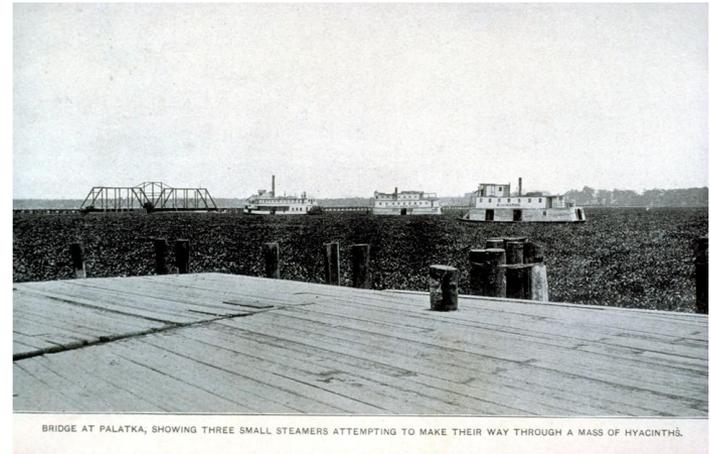
- Authorized states to establish water quality standards
- Established National Pollution Discharge Elimination System (NPDES)
- Section 404 regulates discharge of dredged or fill material into “waters of the United States”
- Includes Wetlands, navigable waterways, territorial seas, interstate waters, AND their tributaries or impoundments



Federal Clean Water Act (CWA) & Section 10 of the Rivers and Harbors Act

▶ Rivers and Harbors Act of 1899

- Prohibits creation of obstruction to navigable waters
- Includes the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway.



BRIDGE AT PALATKA, SHOWING THREE SMALL STEAMERS ATTEMPTING TO MAKE THEIR WAY THROUGH A MASS OF HYACINTHS.

Basic Goals of Clean Water Act Section 404

- ▶ Regulate Placement of Fill into “Waters of U.S.” that replaces, changes bottom elevation, destroys, or degrades
- ▶ Avoid wetland and water impacts where practicable
- ▶ Minimize potential impacts to wetlands and waters
- ▶ Compensate for unavoidable impacts to wetlands or waters through activities to enhance or create wetlands and/or waters

Getting a 404 permit can be one of the most time-consuming, costly, complicated, and design-constraining things you can do on a proposed project.



CWA 404/401 Regulatory Agency Review and Enforcement

- ▶ **U.S. Army Corp of Engineers issues permits, enforces permit conditions**
- ▶ **Missouri DNR – Sets water quality conditions**
- ▶ **U.S. Environmental Protection Agency enforces non-permit violations, veto authority, develops policy, and intervenes in special cases**



Missouri Department
of Natural Resources



**US Army Corps
of Engineers®**



Definition of a Wetland

▶ Section 404 of the Clean Water Act:

- Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Hydrophytic Vegetation

Hydric Soil

Wetland Hydrology

Clean Water Act Jurisdiction

- ▶ **Highly site specific and tied to existing site conditions**
- ▶ **Not always apparent or commonsensical**
- ▶ **Often based on subjective or inconsistent interpretations of criteria and visual indicators**



Clean Water Act Jurisdiction

▶ Important to know and understand exemptions and exclusions from jurisdiction

- Waste treatment systems
- Certain Ditches
- Erosional features
- Stormwater control features
- Etc...

▶ ...and permitting

- Normal farming activities
- Some maintenance activities
- Farm roads, temporary roads for mining equipment
- Etc...



Recognizing Ephemeral Streams



Ephemeral Stream: Spring after hard rain



Ephemeral Stream: Summer





Ephemeral Stream through Uplands





Unnamed Intermittent Tributary



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Compacted, poorly-drained area post-construction, revegetates with hydrophytes, can qualify as a wetland



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Groundwater seep exposed along engineered slope

The Ditch Issue



**NON-JURISDICTIONAL
GRASSED SWALE**



**POTENTIALLY JURISDICTIONAL
STREAM**



How to Reduce Your Exposure to CWA Jurisdictional Claims

- ▶ **Document pre-construction conditions**

- ▶ **Perform post-construction drainage control inspections, maintenance dredging, and vegetation control**



How to Reduce Your Exposure to CWA Jurisdictional Claims

- ▶ **Know the exemptions, know when to push your case with regulators**
- ▶ **Smart stormwater design to control drainage, eliminate unintended consequences**



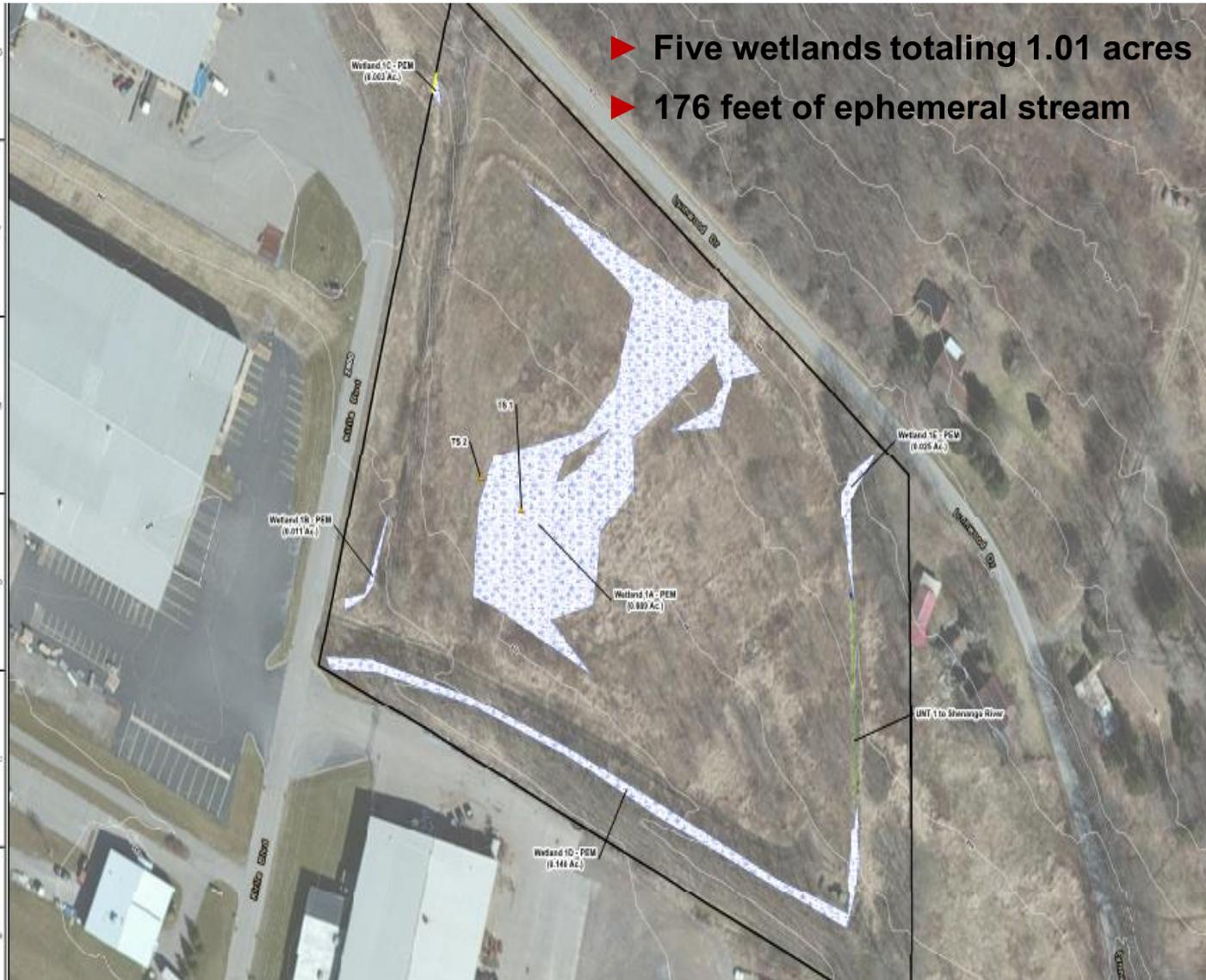
Case Study: Previously Cleared Site Proposed for Manufacturing Facility



- ▶ **Poorly maintained stormwater management system and drainage ditches identified on-site. The stormwater system was constructed in 1986.**
- ▶ **The State and USACE were notified by a local agency regarding potential wetland issues.**
- ▶ **The agencies conducted a site visit and let the owner know that there were jurisdictional wetlands on site.**

Case Study: Previously Cleared Site Proposed for Manufacturing Facility

- ▶ Five wetlands totaling 1.01 acres
- ▶ 176 feet of ephemeral stream



LEGEND

- ▲ TEST SITE
- EPHEMERAL STREAM
- WETLAND CONTINUED BEYOND DELINEATION BOUNDARY
- PEW WETLAND
- ESCALATION BOUNDARY
- PUBLIC CONTOUR
- INTERMEDIATE CONTOUR

REFERENCES

1. DEPARTMENT OF ENVIRONMENTAL PROTECTION, 3000 STREAM DATA, 2014
2. PENNSYLVANIA PROGRAM LIBRARY DATA, P. 17, FEBRUARY 2008
3. CDM WORLD WATERSHED ASSESSMENT SERVICE, HTTP://WWW.WATERSHED.COM/COMPANY/WORLD_WATERSHED/ACCESS/8110215, WATERSHED DATE: 2011.

NOTES

1. THE WETLAND AND STREAM DELINEATION AND CONDUCTIVITY CDM & ENVIRONMENTAL CONSULTANTS, INC. ON 04/20/15.
2. CDM & ENVIRONMENTAL CONSULTANTS, INC. CONDUCTED THE WETLAND DELINEATION IN A MANNER CONSISTENT WITH THE CRITERIA CONTAINED IN THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, 1987 MANUAL AND THE 2011 MANUAL, IN ADDITION TO THE CORPS OF ENGINEERS WETLAND USE AND ZONING MANUAL, LATEST EDITION AND PRESENT REGIONAL VERSION 2.0 2012 REGIONAL SUPPLEMENT, AND WITH THE USE OF CURRENT AND AVAILABLE RECORDS BY MEMBERS OF THE ENVIRONMENTAL CONSULTING PROFESSION FUNCTIONING CONTEMPORANEOUSLY UNDER SIMILAR CONDITIONS IN THE LOCALITY OF THE PROJECT. IT MUST BE RECOGNIZED THE WETLAND DELINEATION WAS BASED ON VISUAL OBSERVATIONS AND CDM & ENVIRONMENTAL CONSULTANTS' PROFESSIONAL INTERPRETATION OF THE CRITERIA IN THE MANUALS AND THE BEST AVAILABLE SUPPLEMENTARY WETLAND DETERMINATIONS MAY CHANGE SUBSEQUENT TO CDM & ENVIRONMENTAL CONSULTANTS' DELINEATION BASED ON CHANGES TO REGULATORY CRITERIA, CHANGES TO SURFACE AND OTHER HUMAN ACTIVITIES AND/OR LAND DISTURBANCES.

SCALE IN FEET

0 50 100 150 200

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Request for Concurrence that Features are Non-Jurisdictional

- ▶ **Although the areas met the technical criteria to be considered wetlands and streams, a case was built to document that these areas were part of an existing stormwater management system.**
- ▶ **A review of historic development plans indicates that the subject features were constructed to convey stormwater.**



Request for Concurrence that Features are Non-Jurisdictional

- ▶ **It was our opinion that the stormwater features should be considered non-jurisdictional.**
- ▶ **Requested face to face meetings with the State and the USACE.**
- ▶ **These meetings led to eventual concurrence from both agencies**



Request for Concurrence that Features are Non-Jurisdictional

- ▶ **Excerpt from State’s letter: “The Department concurs with the assessment that the feature in question meets the definition of a stormwater management facility... Therefore, requirements for a permit are waived...”**

- ▶ **Excerpt from USACE follow-up email: “the Corps is now in agreement that the previously thought wetlands are actually components of a stormwater system.”**

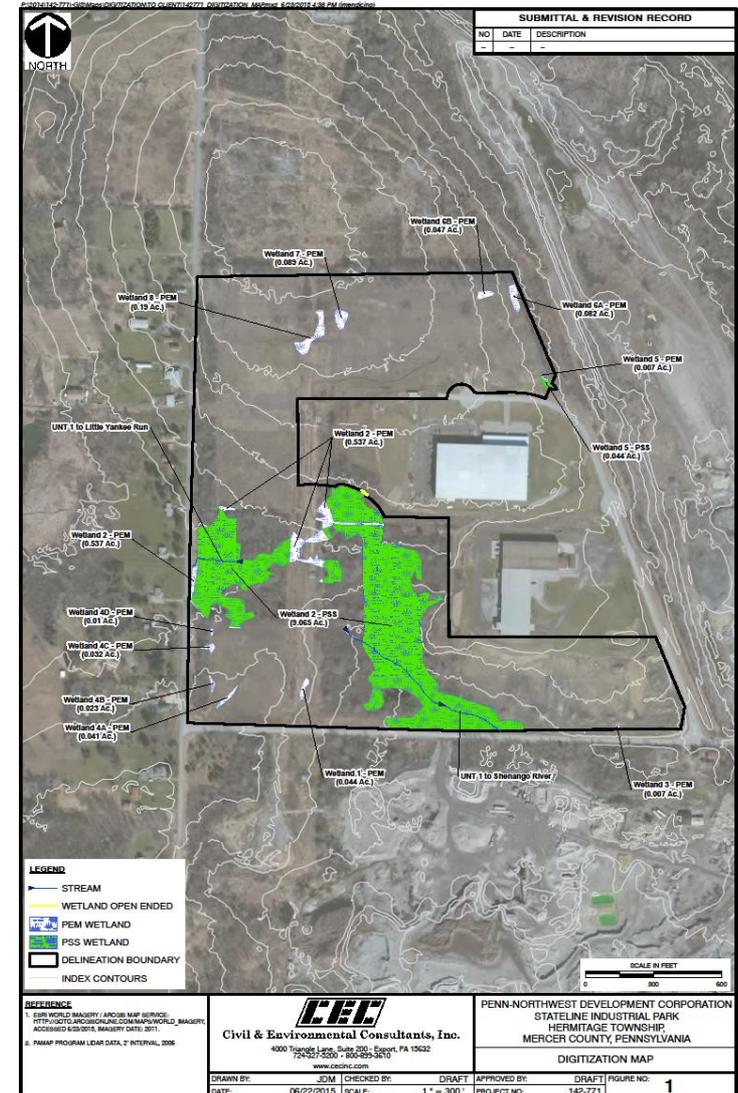
Case Study: Expansion of Stateline Industrial Park



- ▶ Wetlands that had formed due to temporary erosion and sediment (E&S) controls being left in place following clearing, grubbing, and grading activities at the site 3 years earlier.



2004 Delineation
(3.4 acres of wetlands)



2015 Delineation
(9.5 acres of wetlands)

Case Study:

Expansion of Existing Stateline Industrial Park

- ▶ **Temporary BMPs left in place caused hydric conditions in former upland areas. According to the E&S plans prepared by CEC, the temporary BMPs should have been removed once uniform 75% vegetative cover was established.**

- ▶ **During a Sept. 2015 jurisdictional determination site visit, CEC showed the State and USACE documentation of the work at the site including E&S plans and aerial imagery. The State and USACE also saw the controls in the field.**



Case Study:

Expansion of Existing Stateline Industrial Park

- ▶ **Final Result: The wetlands that were created due to clearing and grading activities did not qualify for an exemption and were claimed as jurisdictional.**
- ▶ **However, the wetlands that had formed behind BMPs were not considered jurisdictional because the USACE determined they lacked natural hydrology (11 wetlands (0.62 acres)).**



Clean Water Act Compliance

Lessons Learned

- ▶ **Lesson 1: E&S and stormwater management plans should be strictly followed. Temporary BMPs should be removed as instructed. Permanent BMPs should be maintained and kept in good working order.**
- ▶ **Lesson 2: Wetlands can change/grow over time, especially on actively graded sites. Do not assume that the same conditions will exist years later.**
- ▶ **Lesson 3: Be careful of what you include on the initial delineation figures. Reserve the right to hold back and discuss “gray areas” in the field. Update the delineation report following the JD meeting.**



Endangered Species Act

- ▶ **Section 7(a)(2) directs all Federal agencies to insure that any action they authorize, fund, or carry-out does not jeopardize the continued existence of an endangered or threatened species or designated or proposed critical habitat (collectively, referred to as protected resources).**
- ▶ **Section 9 of the ESA makes it unlawful for any person – including private and public entities – to “take” individuals of an endangered species and, by regulation, a threatened species. 16 U.S.C. § 1538(a) (protecting endangered species); id. § 1533(d) (authorizing the Services to extend the take prohibitions of Section 9 to threatened species by regulation); id. § 1532(13) (defining “person”).**

Endangered Species Act

- ▶ **“Take” means to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Id. at § 1532(19). “Harm” is further defined to include significant habitat modification or degradation which “actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.”**

Before Starting a Development Project

- ▶ **Endangered species assessments should be included as part of the due diligence of any development project.**
- ▶ **Proper planning and timely consultation with the local U.S. Fish and Wildlife Service field office is critical to avoiding unplanned project delays.**

Protected species in Missouri include:

- ▶ **Mussels**
- ▶ **Plants**
- ▶ **Mammals**
- ▶ **Birds**
- ▶ **Crayfish**
- ▶ **Snails**
- ▶ **Amphibians**
- ▶ **Fish**
- ▶ **Insects**



Threatened & Endangered Bat Species in Missouri:

- ▶ **Northern long-eared bat**
- ▶ **Indiana bat**
- ▶ **Gray bat**

- ▶ **Decline attributed to:**
 - Disturbance during hibernation,
 - Winter habitat loss (cave commercialization, cave flooding, trash in sink holes),
 - Summer habitat loss (loss of roost trees),
 - Wind energy,
 - Disease (White Nose Syndrome)

Questions to Ask About Projects Concerning Protected Bat Species:

- ▶ **Does my project have a federal nexus?**
- ▶ **Is my project within the range of a protected species?**
 - USFWS Information for Planning and Conservation System
 - <https://ecos.fws.gov/ipac/>
- ▶ **Is habitat present within my project area?**
 - Winter habitat (caves, mines, etc.)?
 - Summer habitat (roost trees)?
 - Documented habitat from previous studies?
- ▶ **Does my project involve tree clearing?**
- ▶ **Does my project meet one of the exempted activities under the interim 4(d) rule?**
 - Routine maintenance and limited expansion of existing right-of-way and transmission corridors
- ▶ **Does my project affect habitat alone or could it result in direct fatality?**
- ▶ **Can my project commit to conservation measures?**

What If I Need More Information?

1. Habitat assessment

- Can be completed anytime

2. Mist-netting

- Currently follows Indiana bat guidelines for Recovery Units (May 15 to August 15; some states have restricted dates)

3. Hibernacula surveys

- Special permissions necessary (fall, winter, spring)

4. Acoustic surveys

- May 15 to August 15, some states have restricted dates



Avoidance and Minimization

▶ Habitat Assessments – try to avoid a bat survey

- Northern long-eared bat “suitable summer habitat” definition now includes potential roost trees that are \geq 3-inch diameter at breast height (dbh). This is different than the 5-inch dbh for Indiana bat suitable habitat.

▶ Seasonal Tree Clearing

- October 15 to March 31
- November 15 to March 31
- Dependent on habitat present and the property’s vicinity to a hibernaculum
- Possible acreage thresholds above which a consultation is required.

▶ Site-specific Conservation Plans or Protection and Enhancement Plan

▶ Habitat Enhancement

- Artificial roost structures, bat boxes, or tree girdling

National Historic Preservation Act

- ▶ **Section 106 of the NHPA requires consideration of historic preservation in projects that have federal involvement, including funding and permitting.**



National Historic Preservation Act

- ▶ Normally, Federal agency will initiate consultation with the State Historic Preservation Office (SHPO) and federally recognized Indian tribes.



National Historic Preservation Act

- ▶ Consult with archaeologist or 106 specialist (optional)
- ▶ Submit a “Section 106 Project Information Form” to the State Historic Preservation Office (SHPO).
 - Project location, description, existing disturbance within the project area, Known archaeological sites on or adjacent, Construction plans and dates.



National Historic Preservation Act

► Based on SHPO review:

- 1) “No further consultation regarding this project is required at this time” letter, or.
- 2) Phase I Cultural Resources Survey is required.



National Historic Preservation Act

► Phase II Cultural Resources Survey:

- Required when a historic standing structure, building, feature, or archaeological site is encountered and SHPO determines a Phase II survey is necessary to determine eligibility for inclusion on the National Register of Historic Places.



National Historic Preservation Act

- ▶ If a National Register of Historic Places eligible site or structure is present within the project area, avoidance and/or mitigation measures must be taken.



Questions?

