



Wetlands and Section 401 Permitting

Indiana Department of Environmental Management
Office of Water Quality
Wetlands and Stormwater Section
Wetlands Program



Presentation given at Working
Near Waterways Workshop
hosted by the Stormwater
Advisory Committee (SWAC)
on 3/12/20.

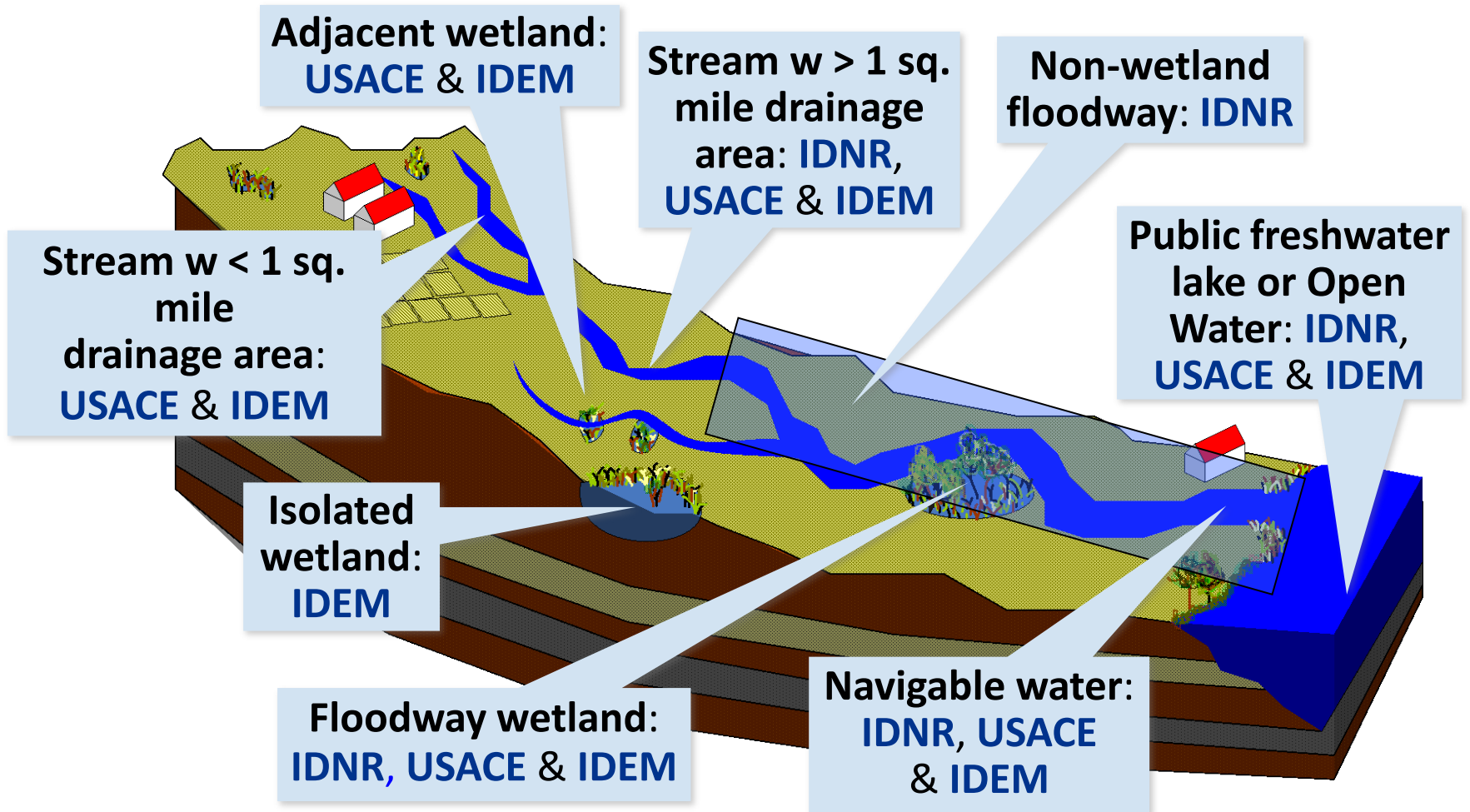




Indiana Department of Environmental Management

- Office of Water Quality, Wetlands and Stormwater Section:
 - Regulate all wetlands, jurisdictional streams, lakes, and some ponds
 - Regulate industrial stormwater, construction stormwater, and municipal separate storm sewer systems
- Implement Section 401 of the Clean Water Act and the State Isolated Wetlands Law
- Implement construction stormwater (Rule 5)
- State Water Quality Standards

Regulatory Agencies



Regulatory Myth One

MYTH:

Only blue-line streams on topographic maps are regulated

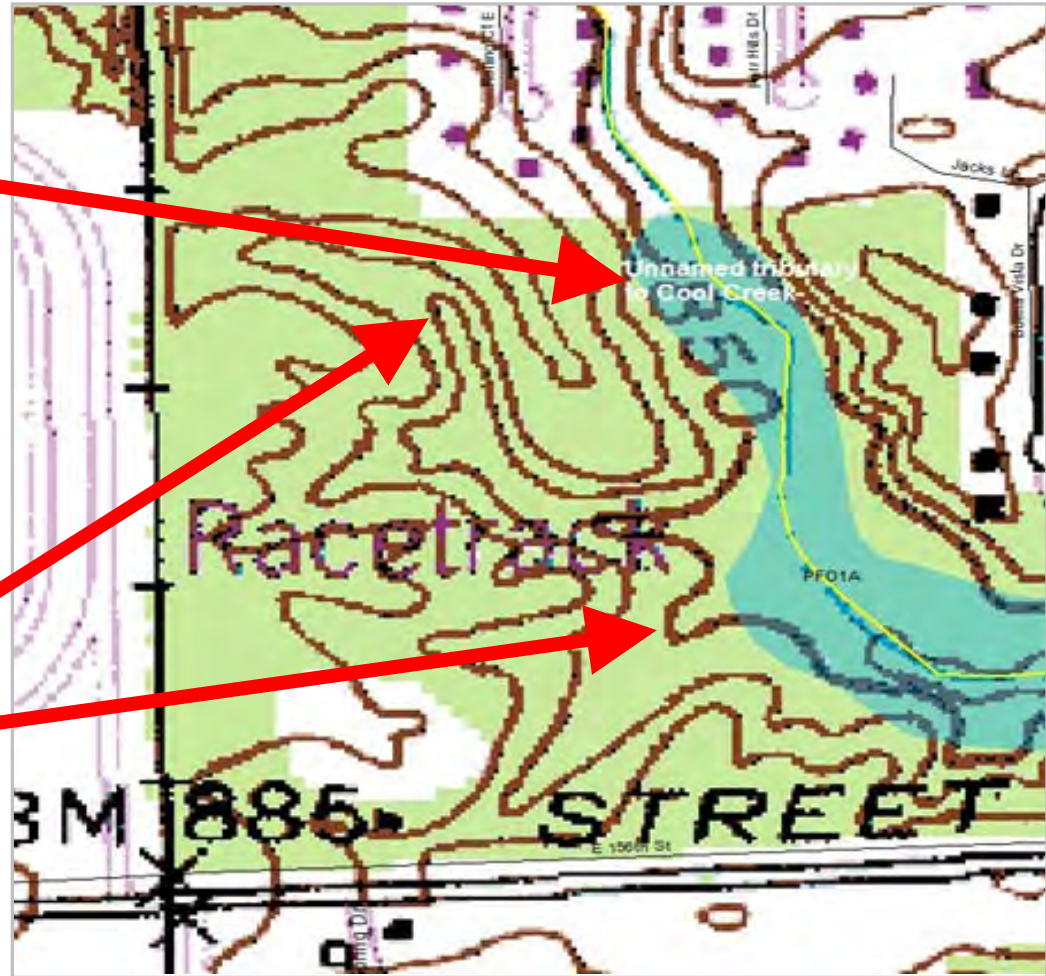
FACT:

- Many streams do not show up as a blue-line on a topographic map
- Streams do NOT have to be flowing to be regulated



National
Wetlands
Inventory
area

V-shaped
contours:
typical of
streams





Regulated Streams







Regulatory Myth Two

MYTH:

All wetlands appear on the National Wetlands Inventory (NWI) maps

FACT:

- Many wetlands do NOT show up on the NWI maps
- The only way to know if wetlands are present is to have a wetland delineation completed for a site and verified by USACE



What Makes A Wetland?

- 1987 U.S. Army Corps of Engineers Wetland Delineation Manual
- The Regional Supplements:
 - Midwest Region
 - Eastern Mountains and Piedmont Region
 - Northcentral and Northeast Region
- Three Criteria:
 - Hydric Soils
 - Hydrophytic Vegetation
 - Hydrology

ERDC/EL TR-12-9

Environmental Laboratory



US Army Corps
of Engineers®
Engineer Research and
Development Center

Wetlands Regulatory Assistance Program

**Regional Supplement to the Corps
of Engineers Wetland Delineation Manual:
Eastern Mountains and Piedmont Region
(Version 2.0)**

U.S. Army Corps of Engineers

April 2012



Approved for public release; distribution is unlimited.

Hydric Soils





Hydric Soils

- Soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions
- Based on field indicators (Munsell Color Chart) and definitions in Natural Resources Conservation Service Field Indicators of Hydric Soils in the United States

Hydrophytic Vegetation





Hydrophytic Vegetation

- Plants adapted to grow in saturated soil conditions
- A wetland must have a dominance of wetland vegetation (>50%)
- Approximately 5,000 different plant species may occur in wetlands
- Plants are assigned a wetland indicator status by the U.S. Army Corps of Engineers



Hydrology





Hydrology

- This criteria drives it all
- Saturation or inundation in the upper 12-inches of the soil for approximately 5% of the growing season (approximately two weeks)
- What to look for:
 - Direct observation of surface or groundwater
 - Evidence of flooding or ponding
 - Evidence of saturation
 - Landscape and vegetation

Depressional Wetland

Spring



Summer



Fall



Winter



Forested Wetland





Emergent Wetland





Emergent Wetland





Emergent Wetland





Wetland Functions

- The physical, chemical, and biological interactions within wetlands are often referred to as wetland functions:
 - Water filtration and purification
 - Trapping sediments and contaminants
 - Flood storage and stream flow regulation
 - Erosion reduction
 - Habitat for aquatic and terrestrial plants, animals, and microorganisms

Wetland Filtration

- Wetlands naturally remove chemical pollutants, including excess fertilizer and other materials, from lakes and streams



Sediment Trapping

- Wetlands collect sediment and nutrients





Water Storage

- Wetlands are reservoirs for rainwater and run-off:
 - Storm abatement (coastal)
 - Flood mitigation (riparian)
- Moderate stream flows:
 - Reduce peak water flows
 - Maintain flow during low water
- Help prevent flooding by temporarily storing water:
 - One acre wetland can store up to 1.5 million gallons of water
- Recharge groundwater and aquifers

Habitat Function of Wetlands

- 50% of North American bird species nest or feed in wetlands
- 50% of protected migratory bird species rely on wetlands
- 50% of threatened and endangered species are wetland dependent
- 75% of commercially harvested fish and shellfish are wetland dependent



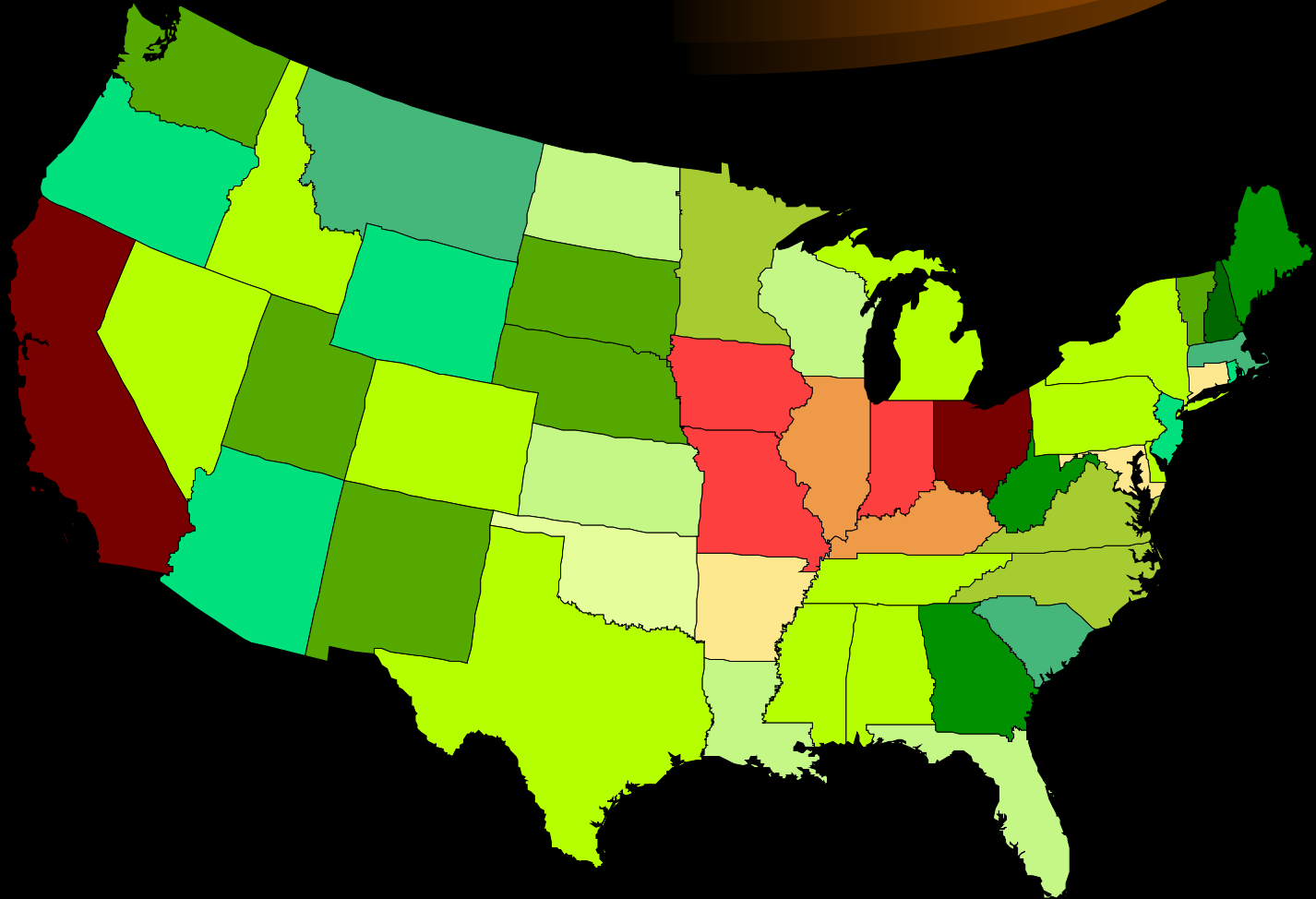
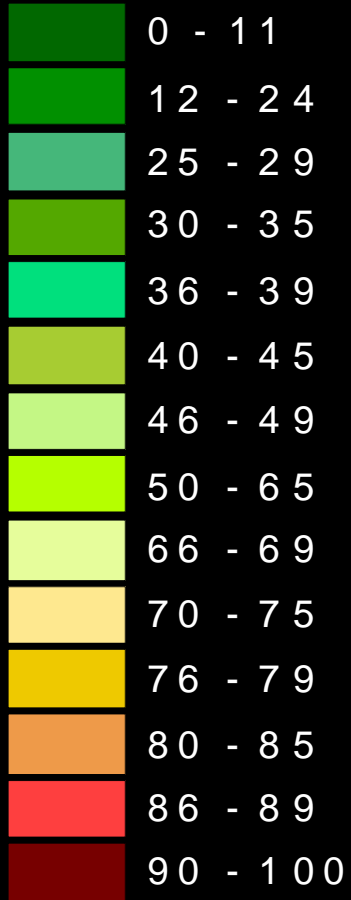


Negative Impacts of Filling Wetlands

- Fill materials change the natural movement, distribution, and properties of the water within a wetland (hydrology)
- Changing the hydrology can alter the soil chemistry and impact plant and animal communities
- Filling also results in a reduction in the size of the wetland, lessening its overall benefits to humans and wildlife
- Section 404/401 permits require the applicant to avoid and minimize impacts to the greatest extent possible

United States - Wetland Losses

Percentage of wetland loss



Source - U.S. Environmental Protection Agency



What IDEM Regulates

- IDEM regulates the placement of dredged or fill material into Waters of the U.S. and nonexempt Waters of the State
- All Waters of the U.S. are Waters of the State
- A State Regulated Wetland is defined by state law as an isolated wetland located in Indiana that is not an exempt isolated wetland
- Nonexempt activities in “farmed” and “prior converted” wetlands
- Fill placed in a cropped wetland or forested wetlands subject to a change in use conversion

What Counts as Fill?

- Soil, rock, sand, gravel
- Riprap, articulated mats
- Pipes and culverts
- Tile and tile outlets
- Dredged material
- Dams
- Mechanized land clearing
- Stump removal





Common Projects that Require IDEM Permits

- Stream stabilization
- Culvert installation
- Stream crossings
- Stream bank grading
- Stream filling
- Stream relocation
- Drain outlets
- Mechanical clearing within a wetland or stump removal
- Tiling a wetland
- Filling a wetland
- Excavating a wetland
- Temporary impacts

What Doesn't Count As Fill?

- Materials placed above the ordinary high water mark or outside the stream:
 - Bank-to-bank bridges
 - Three-sided culverts that span the waterway with no riprap or temporary impacts
- One-Step Excavation:
 - Verify with U.S. Army Corps of Engineers (USACE)



**Ordinary High
Water Mark**

Avoid Permitting “Surprises”

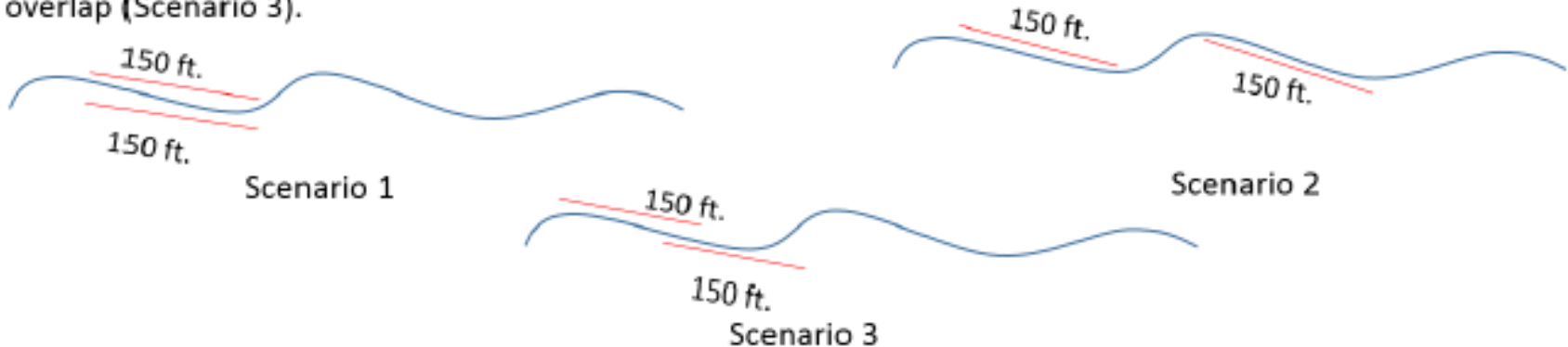
- Avoid impacts to wetlands and streams:
 - If possible, have a wetland delineation completed for all sites
- Call for early coordination:
 - Applicants are encouraged to contact IDEM staff to set up an early coordination site visit or field meeting



Regional General Permit Notification Form

- Minimal impacts under the Regional General Permit and the Nationwide Permits
- Less than 0.10 acre and less than 300 feet of impact
- Two pages
- Maximum 30-day review time
- No application fee

*(3)(b): If an applicant will be stabilizing 150 feet of the west bank and 150 feet of the east bank, their impact total can be 150 feet (Scenario 1) or 300 feet (Scenario 2), or anywhere in between depending how the impacts overlap (Scenario 3).





Application for Authorization to Discharge Dredged or Fill Material

- For projects that don't fit within the Regional General Permit or Nationwide Permit conditions:
 - More than 300 feet or 0.10 acre of impact
 - Or alter flow, bed elevation, stream area, etc.
 - Or isolated waters
- Maximum 120-day review period:
 - 21 days on Public Notice
- No application fee
- Mitigation may be required:
 - In-lieu fee credit purchase or recreating wetlands/stream elsewhere



Wetlands and Stormwater Section State Regulated Wetlands and Section 401 Water Quality Certification Programs

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To File a Wetland Complaint or Report a Violation: 800-451-6027, Option 3
www.idem.IN.gov/5274.htm

Non Orthophotography Data
- Obtained from the State of Indiana Geographical Information Office (GIO) Library
Map Projection: UTM Zone 16 N
Map Datum: NAD83

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Office of Water Quality - Wetlands
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Questions?



www.wetlands.IN.gov