

What is a Wetland?

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What is a Wetland?



Wetlands and streams are necessary components of a healthy ecosystem.

What is a Wetland?



Photos Courtesy of IDEM

Wetlands - contain standing water or have water at or near the soil surface for part of, or all year, including the growing season

What is a Wetland?

A Typical Wetland

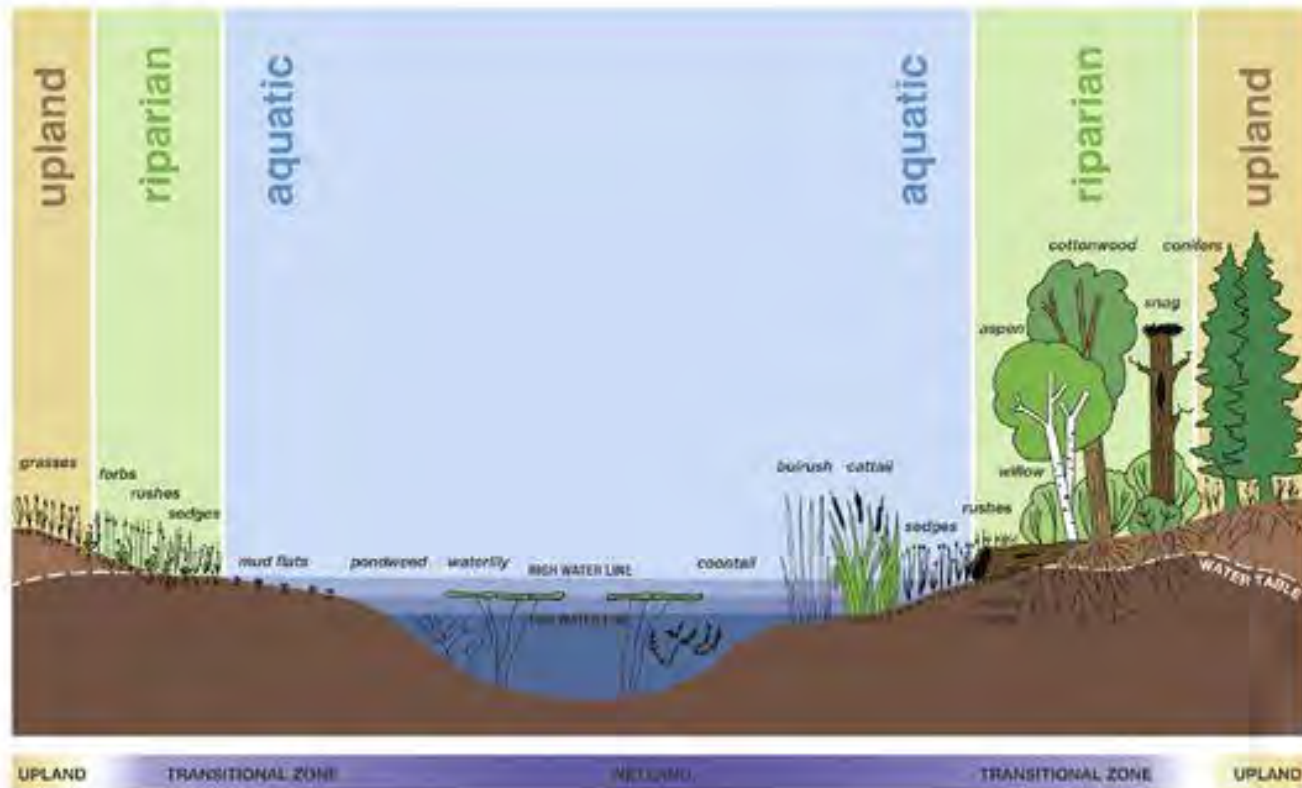


Image Courtesy of IDEM

Different from both dry land (upland) and deep water of lakes and streams, wetlands often occur in the transitional zones between these features.

What is a Wetland?



What is a Wetland?

Many different types of wetland ecosystems exist in Indiana



Floodplain Forest



Wet Meadow



Shallow Marsh



Wet Prairie

Photos Courtesy of IDEM

How Wetlands Function

Wetlands develop in areas of poorly drained soils.

Water saturation results in reduced oxygen concentration in soils of areas flooded for prolonged periods of time.

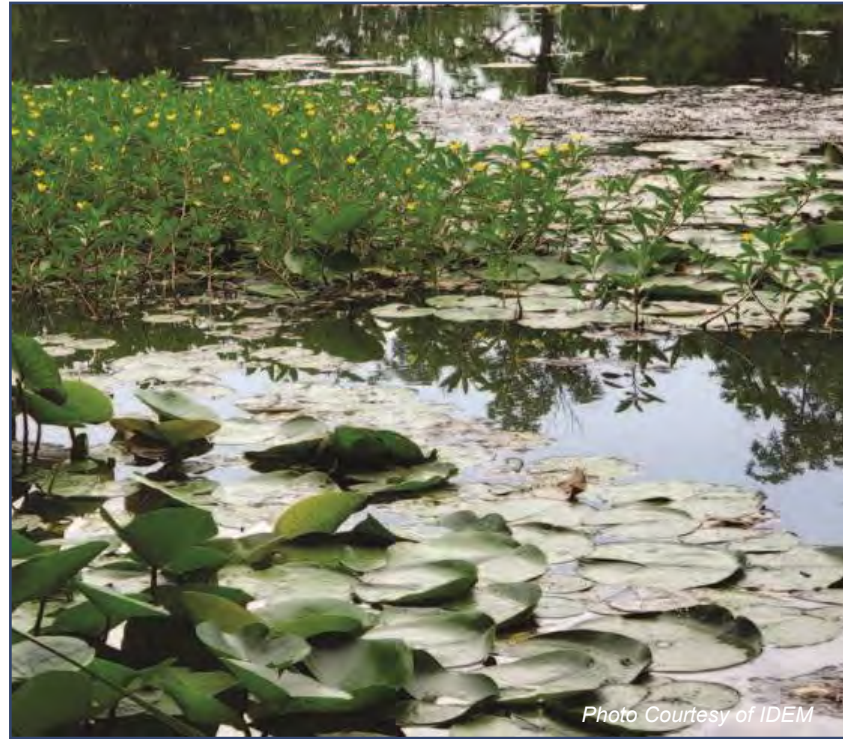
How Wetlands Function



Image courtesy of IDEM

The process allows vegetation adapted to poorly drained soils to thrive.

How do I know if my land has wetlands?



Wetlands are defined by three criteria: **vegetation, hydrology, & soils**

Criteria 1: Vegetation



Nearly 5,000 different hydrophytic (water loving) plants occur in wetlands.

Criteria 2: Hydrology



Refers to the presence of water at or above the soil surface long enough to significantly influence the plant types & soils that occur in the area.

Criteria 3: Soils



Approximately 2,000 different types of hydric soils occur in wetlands across the United States.

Wetland Determinations & Delineations

Wetlands are identified through a process known as **determinations**.
Delineations are the process of using determination data points to identify and map the location & extent of a wetland at that time.

There are no known precise wetland maps!

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: _____ City/County: _____ Sampling Date: _____
Applicant/Owner: _____ State: _____ Sampling Point: _____
Investigator(s): _____ Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
Slope (%): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI or WWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ___ No ___
Hydric Soil Present? Yes ___ No ___
Wetland Hydrology Present? Yes ___ No ___
Is the Sampled Area within a Wetland? Yes ___ No ___
Remarks: _____

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____) Absolute % Cover, Dominant Species?, Indicator Status
Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Prevalence Index worksheet: Total % Cover of: OBL species 0 x 1 = 0
Herb Stratum (Plot size: _____)
Woody Vine Stratum (Plot size: _____)
Hydrophytic Vegetation Present? Yes ___ No ___

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)
Table with columns: Depth (inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks

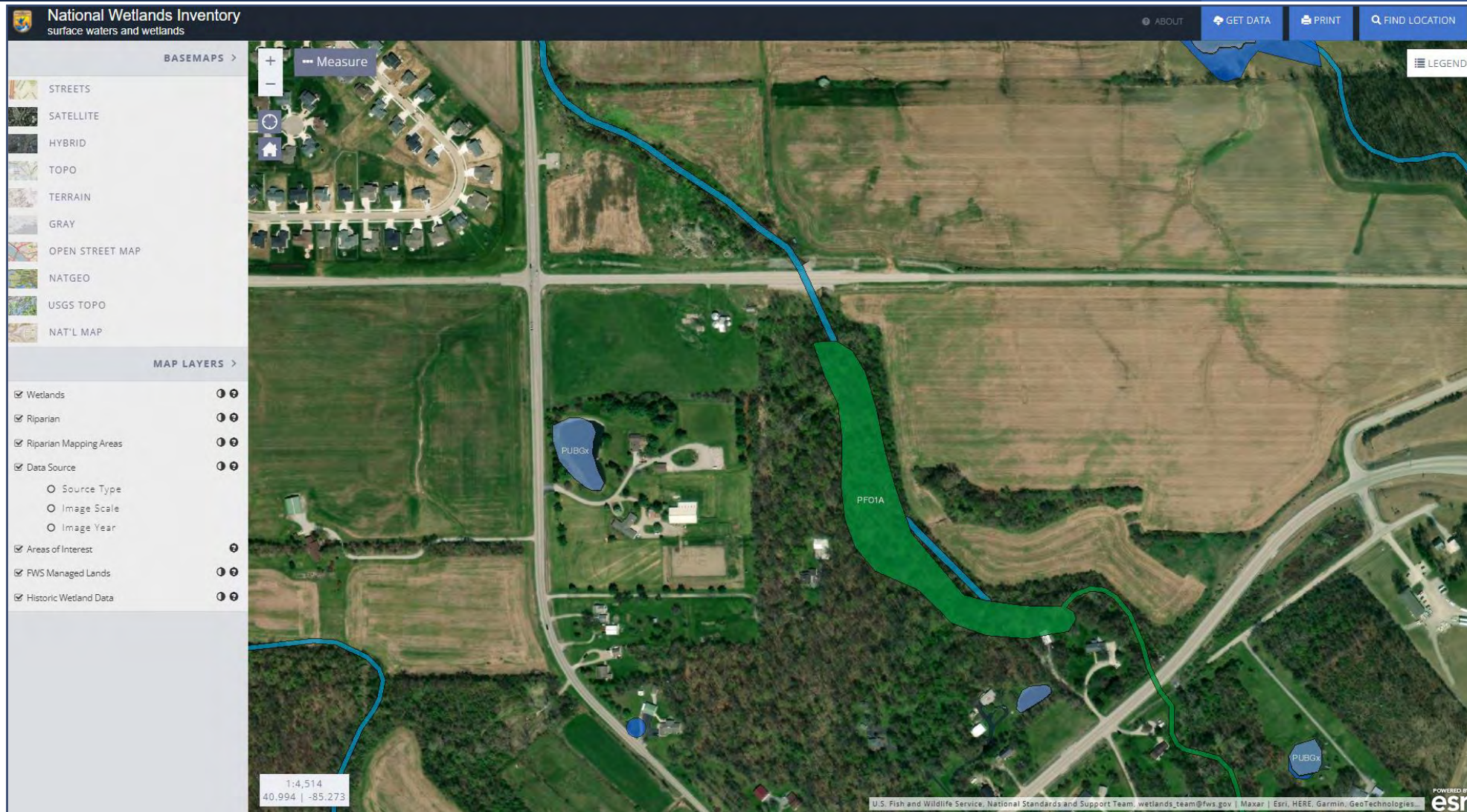
- Hydric Soil Indicators: Histosol (A1), Histic Epipedon (A2), Black Histic (A3), Hydrogen Sulfide (A4), Stratified Layers (A5), 2 cm Muck (A10), Depleted Below Dark Surface (A11), Thick Dark Surface (A12), Sandy Mucky Mineral (S1), 5 cm Mucky Peat or Peat (S3)
Indicators for Problematic Hydric Soils: Sandy Gleyed Matrix (S4), Sandy Redox (S5), Stripped Matrix (S6), Loamy Mucky Mineral (F1), Loamy Gleyed Matrix (F2), Depleted Matrix (F3), Redox Dark Surface (F6), Depleted Dark Surface (F7), Redox Depressions (F8)
Coast Prairie Redox (A16), Iron-Manganese Masses (F12), Other (Explain in Remarks)

Restrictive Layer (if observed): Type: _____ Depth (inches): _____
Hydric Soil Present? Yes ___ No ___
Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)
Secondary Indicators (minimum of two required)
Surface Water (A1), High Water Table (A2), Saturation (A3), Water Marks (B1), Sediment Deposits (B2), Drift Deposits (B3), Algal Mat or Crust (B4), Iron Deposits (B5), Inundation Visible on Aerial Imagery (B7), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Aquatic Fauna (B13), True Aquatic Plants (B14), Hydrogen Sulfide Odor (C1), Oxidized Rhizospheres on Living Roots (C3), Presence of Reduced Iron (C4), Recent Iron Reduction in Tilled Soils (C6), Thin Muck Surface (C7), Surface Soil Cracks (B6), Drainage Patterns (B10), Dry-Season Water Table (C2), Crayfish Burrows (C8), Saturation Visible on Aerial Imagery (C9), Stunted or Stressed Plants (D1), Geomorphic Position (D2), FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes ___ No ___ Depth (inches): _____
Water Table Present? Yes ___ No ___ Depth (inches): _____
Saturation Present? Yes ___ No ___ Depth (inches): _____
Wetland Hydrology Present? Yes ___ No ___
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____
Remarks: _____

National Wetland Inventory Map



Not for regulatory purposes;
not field verified &
not delineated

What a
Wetland is
Not

What a Wetland is NOT



Photo Courtesy of Google Images



Photo Courtesy of Google Images



Photo Courtesy of National Geographic Society



Photo Courtesy of Flickr



Photo Courtesy of Google Images

Mosquito & monster-infested places from your worst nightmares

What a Wetland is NOT

Wetland
Life Thrives
Beyond
Mosquitos &
Monsters



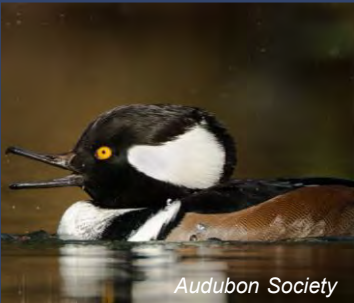
Photo Courtesy of USFWS



Photo Courtesy of Indiana DNR



Indiana DNR



Audubon Society



Photo Courtesy of Indiana DNR



Indiana DNR

What a Wetland is NOT: a Mosquito Sanctuary



Excessive mosquito populations are often a sign of stagnant water.

Things you can do:

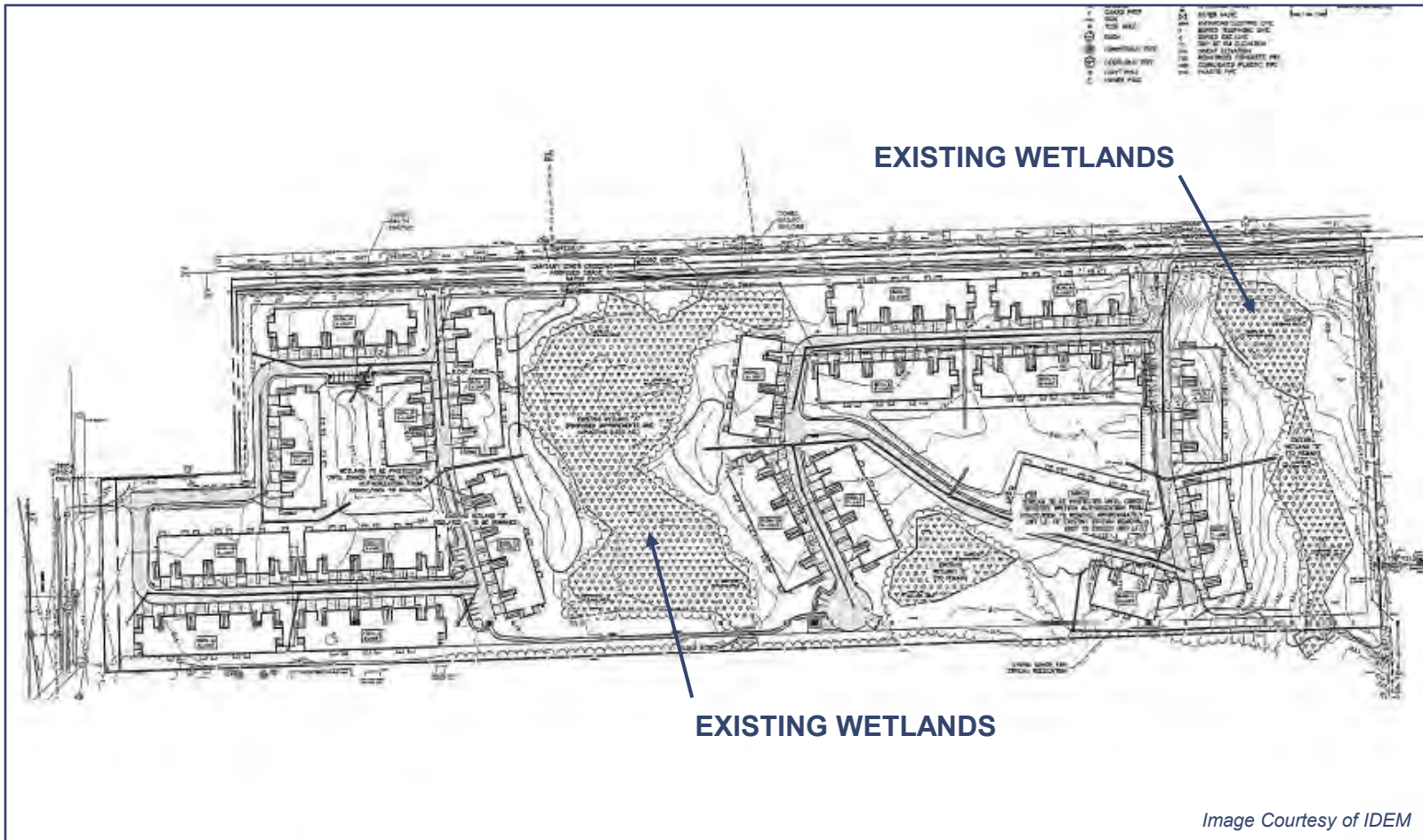
- Dispose of unwanted cans & tires
- Clean clogged roof gutters
- Drain flat roofs
- Flush sump pump pits regularly
- Change water in bird baths, fountains, & troughs twice / week
- Turn over unused wading pools & containers that collect rainwater

What a Wetland is NOT



- **Detention (dry) Basin** – holds water temporarily after rain / storm events; slow release over time period
- **Retention (wet) Pond** – holds water year-round; improves water quality
- **Constructed Wetlands** – Artificial treatment systems that use natural processes involving wetland vegetation, soils, & their associated microbial assemblages to improve water quality (source: EPA)

What a Wetland is NOT



Myth:
Wetlands are a nuisance and an impediment to development.

Fact: Wetlands are an OPPORTUNITY.

This project development incorporated the site's existing wetlands into the surrounding greenspace.

Image Courtesy of IDEM

Thank you!