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Wetlands and streams are necessary components of a healthy ecosystem.



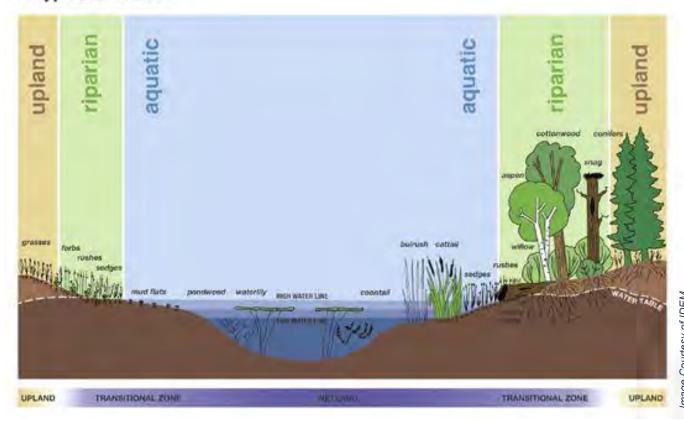




Photos Courtesy of IDEM

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

A Typical Wetland



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



Many different types of wetland ecosystems exist in Indiana



Floodplain Forest Wet Meadow Shallow Marsh Wet Prairie

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



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 <u>determinations</u>.

<u>Delineations</u> are the process of using determination data points to identify and map the location & extent of a wetland at that time.

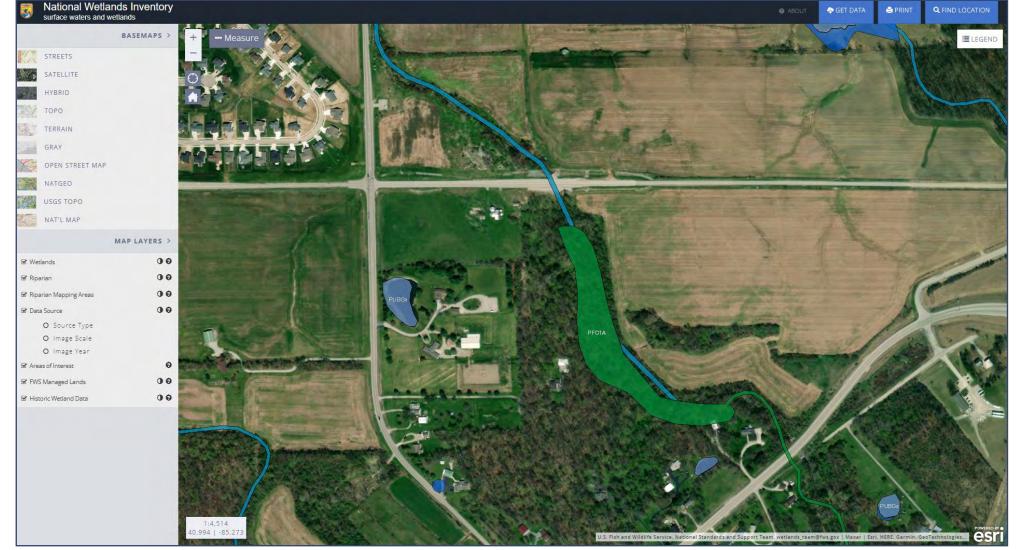
There are no known precise wetland maps!

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site:		City/County	:		Sam	pling Date:			
Applicant/Owner:				State:	Sam	pling Point:			
Investigator(s):		Section, To	wnship, Rar	nge:					
Landform (hillslope, terrace, etc.):			Local relief	concave, convex, no	ne):				
Slope (%): Lat:	ı	Long:				ım:			
Soil Map Unit Name:				NWI or WV		cation:			
Are climatic / hydrologic conditions on the site typical for this	time of yea	r? Ves	No			-			
Are Vegetation, Soil, or Hydrologysi						nt? YesNo			
Are Vegetation , Soil , or Hydrology na	-			eded, explain any an					
SUMMARY OF FINDINGS – Attach site map s	•					•			
Hydrophytic Vegetation Present? Yes No		Ť							
Hydric Soil Present? Yes No			e Sampled			No			
		with	in a Wetlan	d? Yes_		No			
Remarks:									
VEGETATION – Use scientific names of plants.									
Tree Stratum (Plot size:)		Dominant		Dominance Test w	orkshee	t:			
1	% Cover	Species?	Status -	Number of Domina That Are OBL, FAC					
2.			-	That Are OBL, FAC	W, or FA	C: (A)			
3.			·	Total Number of Do		0 (B)			
4.			·	Species Across All Strata: 0 (B)					
5			· ·	Percent of Dominant Species That Are OBL FACW or FAC: 0 (A/B)					
	= Total Cover					That Are OBL, FACW, or FAC: 0 (A/B)			
Sapling/Shrub Stratum (Plot size:)				Prevalence Index	workshe	et:			
1				Total % Cover		Multiply by:			
2			-	OBL species	0	x 1 =			
3			-	FACW species	0	x 2 =0			
4						x 3 =0			
5				FACU species	0	x 4 =0			
Herb Stratum (Plot size:)		= Total Co	ver	UPL species	0	x 5 =0			
1.			+	Column Totals:	0	(A) 0 (B)			
2.			·	Prevalence In	dex = B/	A =0			
3			-	Hydrophytic Vege	tation Inc	dicators:			
4.			·	Dominance Te	st is >509	6			
5.			-	Prevalence Ind	ex is ≤3.0	o ¹			
6.			-			ns ¹ (Provide supporting			
7.			-	data in Remarks or on a separate sheet)					
8.			•	Problematic Hy	drophytic	Vegetation (Explain)			
9.			-	1					
10			•	'Indicators of hydric be present, unless		wetland hydrology must or problematic.			
		= Total Co	ver						
Woody Vine Stratum (Plot size:)									
1				Hydrophytic Vegetation					
2		T-1 : 0		Present?	Yes	No			
		= Total Co	ver						

epth	iption: (Describe to Matrix			(Feature:				
nches)	Color (moist)	%	Color (moist)	%	_Type ¹	Loc²	Texture	Remarks
								-
	ncentration, D=Deple	etion, RM=R	educed Matrix, CS	=Covered	d or Coate	d Sand G		Location: PL=Pore Lining, M=Matrix.
dric Soil In	dicators:						Indicato	ors for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy G	ileyed Ma	trix (S4)		Coa	st Prairie Redox (A16)
Histic Epi	pedon (A2)		Sandy R	edox (S5)		Iron	-Manganese Masses (F12)
Black Hist				Matrix (S			Oth	er (Explain in Remarks)
	Sulfide (A4)				eral (F1)			
	Layers (A5)			eleyed Ma				
2 cm Muc		(444)		Matrix (F				
	Below Dark Surface k Surface (A12)	(A11)		ark Surfa	rface (F7)		3 _{Indiant}	ors of hydrophytic vegetation and
	icky Mineral (S1)			epression				and hydrology must be present,
	ky Peat or Peat (S3)		Redox D	epression	15 (1 0)			ess disturbed or problematic.
_	yer (if observed):							assaulted of problematic.
	, (
Type:								
Type:	nae).		_				Hydric S	oil Present? Yes No
Type: Depth (inch emarks:	nes):						Hydric S	oil Present? Yes No
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National Wetland Inventory Map





Not for regulatory purposes; not field verified & not delineated

What a Wetland is Not

What a Wetland is NOT



Mosquito & monster-infested places from your worst nightmares



What a Wetland is NOT

Wetland
Life Thrives
Beyond
Mosquitos &
Monsters













What a Wetland is NOT: a Mosquito Sanctuary



Excessive mosquito populations are often a sign of stagnant water.

Things you can do:

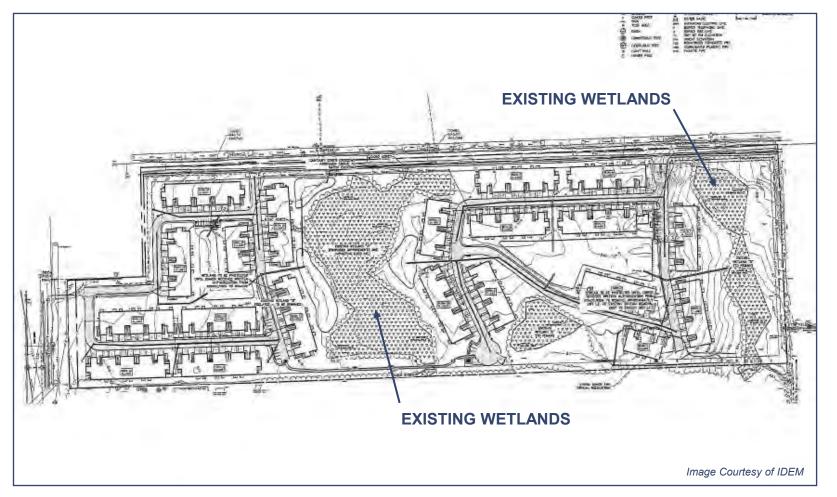
- Dispose of unwanted cans & tires
- Clean clogged roof gutters
- Drain flat roofs
- Flush sump pump pits regularly
- Change water in bird baths, fountains, & troughs twice / week
- Turn over unused wading pools
 & containers that collect
 rainwater

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.

Thank you!