Overview

- Why water resources are important/wetlands in Indiana
- Wetland regulations and permitting
- Compliance- a pictorial tour

2

First Step:

- What is a wetland?
- What is a stream?

3

The Definition of Wetlands

The U.S. Army Corps of Engineers, the Environmental Protection Agency, and the Department of Environmental Management define wetlands as follows:

"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 soil conditions."

06/28/2006

Three Criteria

- Hydric soils
- Hydrophytic plants
- Wetland hydrology

Is a drainage ditch a stream?

YES! (usually)

- Many drainage ditches were dug to straighten existing streams and/or drain wetland areas
- MAY not be jurisdictional if dug in an upland area, ONLY USACE can make this call

7

Why Are Wetlands Important?

- Functions - what wetlands do
  - Chemical Cycling
  - Water Conduit
  - Habitat
- Values - functions that are important to humans

8

Why Are Wetlands Valuable?

- Chemical Cycling
  - Denitrification through anaerobic microbial reactions
  - Phosphorous sequestration largely sedimentation and burial
  - Carbon sequestration in organic accumulation and burial

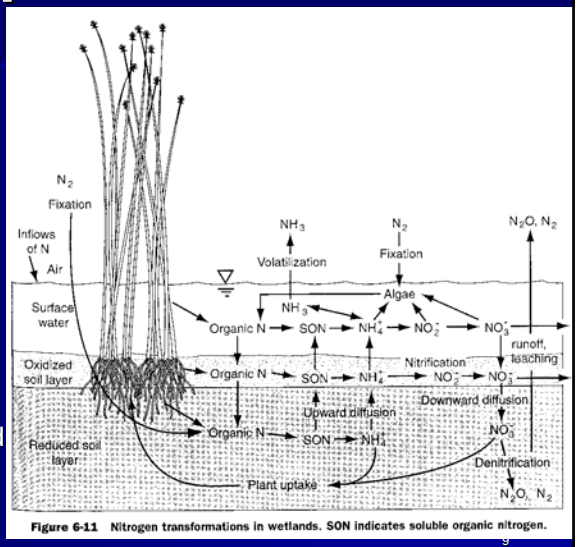


Figure 6-11 Nitrogen transformations in wetlands. SON indicates soluble organic nitrogen.

9

* Mitsch & Gosselink. 2000. Wetlands. 3rd Ed. John Wiley & Sons.

Why Are Wetlands Valuable?

- Water Conduit - wetlands affect the flow of water through the landscape
  - Floodwater attenuation
  - Groundwater recharge
  - Groundwater discharge
  - Stream minimum flow maintenance
  - Flow deceleration and associated sedimentation, bank/shoreline protection

10

Why Are Wetlands Valuable? Habitat

- 150 species of bird and 200 species of fish are wetland dependant (Niering 1985)
- 50% of protected migratory bird species rely on wetlands*
- 50% of endangered species are wetland dependant*
- 95% of commercially harvested fish and shellfish are wetland dependant*

* Mitsch & Gosslink 2000

Bottom Line: Wetlands Protect Life And Property

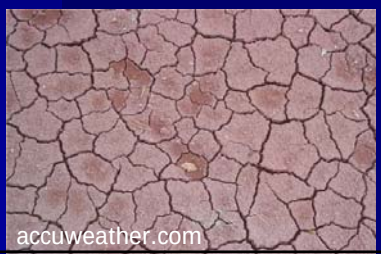
- Flood control and water storage.
- Groundwater recharge.

- Sediment filtration and protection of drainage ways.

12

Streams

- Stream channelization and piping causes water to move downstream quickly
- Higher occurrence of flash flooding
- More profound drought periods



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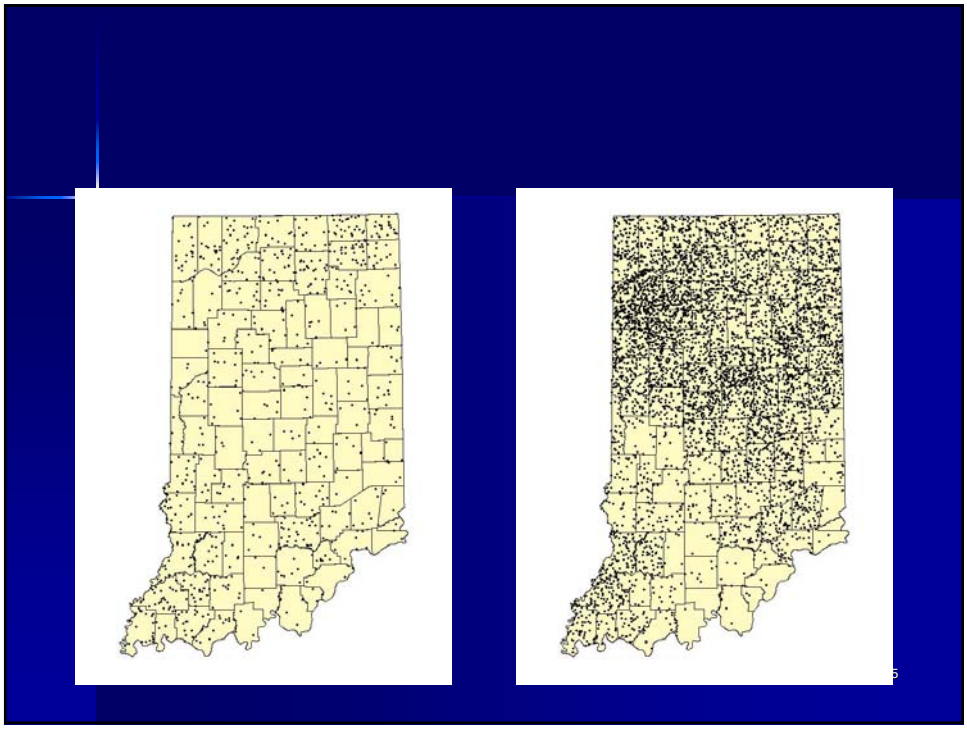
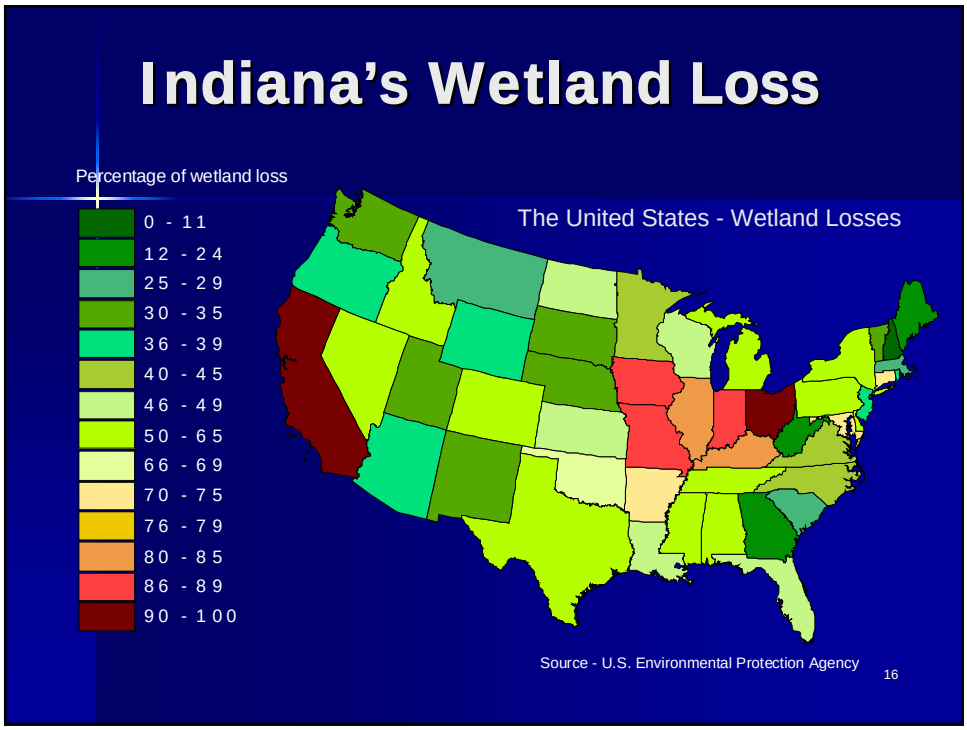
A brief history of Indiana's Wetlands…

14



Indiana's Wetland Loss



Wetland Regulations

17

Activities regulated

- Discharges of dredged or fill materials into the waters of the State/United States.
- Mechanical clearing of wetlands
- Dredging and excavation activities that result in a discharge

18

Activities NOT Regulated

- Clearing of vegetation, removal of trees along ditches in non-wetland areas
- Removal of logjams, snags using equipment working from the top of the bank
- Creating buffer strips, reseeding banks and spoil piles
- Any work that occurs above the ordinary level of water in the ditch
- Repair of existing tile drain

19

Typical IDEM Requirements

- **Avoid and minimize impacts to wetlands**
- **Deposit dredged material on upland**
- **Work from only one side of the stream, and where possible, from the side of the stream which does not have adjacent wetlands**
- **Limit the physical disturbance of banks, other soils, and existing vegetation to that which is absolutely necessary to achieve the purpose of the project.**
- **Control and minimize soil erosion and sediment runoff to any nearby watercourse.**
- **Conduct logjam removal and tree preservation consistent with the practices established in the Indiana Drainage Handbook**
- **Encourage landowners affected by this project to place grassed filter strips on land immediately bordering the stream**

20

Projects with more than minimal impacts

- If wetlands are suspected, get a delineation!
- Sequencing
  - Avoidance: an analysis of options that would avoid impacts altogether
  - Minimization: steps such as rearranging the project's layout to reduce the impact
  - Compensation: the replacement of one wetland or other water with another
- Unless minimal, IDEM requires mitigation. Minimal impacts permitted through RGP.

21

Compensatory Mitigation

- Allows impacts to occur that would significantly degrade water quality

22

Compensatory Mitigation Ratios

- The area of compensation required is often larger than the area of wetland loss
- **Why?** To overcome the risk of failure

23

You can save time and money by practicing avoidance and minimization!

24

Myths and Misconceptions

- All wetlands are regulated
  - Not all wetlands are USACE jurisdictional
  - For isolated wetlands, there are 13 different situational exemptions including:
    - 6 types of incidental features
    - 3 dealing with private ponds, man made water bodies, and pollution control structures
    - 2 size exemptions (½ acre for Class I & ¼ acre for Class II)
    - 2 dealing with agricultural land (in addition to the ag. incidental feature and activity exemptions)

25

Myths and Misconceptions

- Wetlands and streams are "protected."
  - Wetlands aren't *protected*, certain activities in wetlands are *regulated*.
  - The USACE denies <2% of applications, and most of those projects are later approved after modification.

Myths and Misconceptions

- It takes forever to get a permit.
  - Most permits are issued within 75 days although complex projects have been known to take considerably longer.

27

Myths and Misconceptions

- Compensatory mitigation is expensive.
  - This isn't a myth; mitigation really is expensive.

28

The RGP – IDEM's Conditions

- What DOES NOT Qualify
  - Projects with stream relocations, channelization, or piping
  - Fill placed in a wetland and/or stream bottom that cumulatively exceeds 0.10 acre
  - Channel bank stabilization that exceeds 300 feet of stream/ditch
  - Riprap placed on streambanks below the Ordinary High Water Mark that exceeds 1 cubic yard per running foot
  - Any activity involving fill that is associated with additional impacts such as dredging, excavation, damming, and in-line pools

29

RGP - Activity Description

- Provide ONLY information on aspects of the project pertaining to wetland and waterbody impacts
- Give more detail on:
  - bank stabilization
  - fill placed in wetlands
  - types & quantities of fill
  - work in the channel

30

RGP - Acres of Wetland Impact

- The sum of all impacts to emergent, scrub/shrub, and forested wetlands CANNOT exceed 0.10 acre
- The sum of open water impacts and wetland impacts cannot exceed 0.10 acre
- A wetland delineation report must accompany any RGP form that proposes impacts to wetlands

31

RGP - Linear Feet of Stream Impact

- Measure from the centerline of the bridge to a maximum projection of 150 linear feet upstream and downstream
- The bank stabilization “zone” cannot exceed 300 feet
- Bank stabilization must conform to the existing contours of banks

32

RGP - Acres of Open Water Impact

- Record information about riprap placed on the bottom of streams for armoring as "open water impact"
- This information must be calculated separately from bank stabilization riprapping
- Report the coverage of riprap on the stream bottom in acres
  - Do not sum the riprap used to armor the stream bottom ("open water fill" riprap) with riprap quantities used for bank stabilization

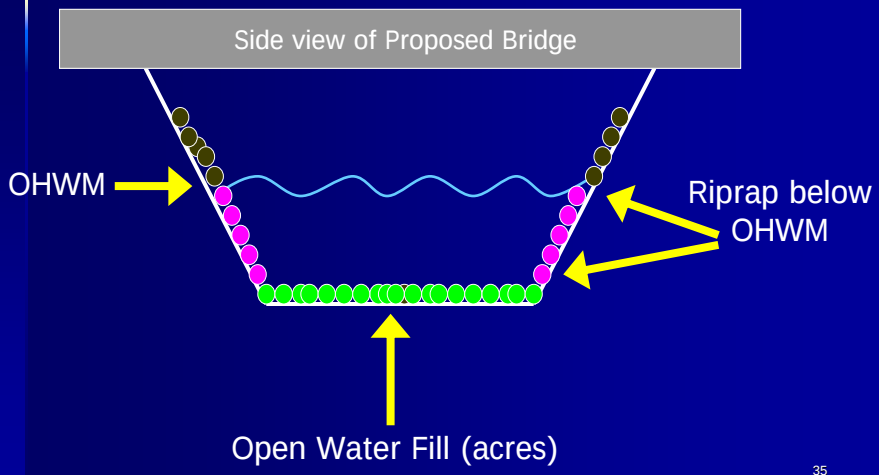
33

RGP - Riprap Below the Ordinary High Water Mark

- This box applies to riprap placed only on the BANKS of streams (NOT on the stream bottom)
- Report ONLY the amount of riprap placed on streambanks that is BELOW the Ordinary High Water Mark
- This amount cannot exceed 1 cubic yard per running foot of impact

34

Providing the Right Information



35

Common Application Pitfalls

- RGP
  - No wetland delineation (if applicable)
  - Incorrect/incomplete application form
  - No applicant signature
  - Missing Corps correspondence
  - No photos submitted
- Application for Authorization to Discharge Dredged or Fill Material to Isolated Wetlands and/or Waters of the State
  - Missing adjacent property owners
  - Worksheet errors
  - Not all wetlands on tract are delineated
  - Incorrect mitigation ratios
  - Incorrect calculation of exemptions for the project (if applicable)

36

Ways to Help IDEM

- Identify a contact person (“agent”)
- Submit simple drawings focused on the channel, the banks, and the structure
- Submit maps and plans (to scale)
- Include more detail in applications
- Consider contacting IDEM for a pre-application meeting

37

Compliance Inspections

- IDEM Wetlands
- IDEM Rule 5
- US Army Corps of Engineers

Have permits on-site

38


03/31/2006
12/28/2006
11/28/2006
39


07/10/2006
11/14/2006
40


05/25/2006
41


04/28/2006


Not So Good!
Good!
09/22/2005
43


44

Something to avoid....

45

Make sure you are talking to the right people!

Questions?

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http://www.in.gov/idem/programs/water/401/index.html

47