

# WETLANDS' ROLE IN A CHANGING CLIMATE

INDIANA WATER SUMMIT - 2023

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# WETLANDS — NATURE'S MULTI-TOOL

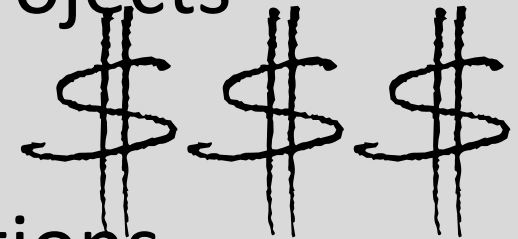
- Flood attenuation
- Water storage
- Groundwater recharge
- Protection of streams -
  - structural, flow, water quality
- Water Filtration
- Carbon storage
- Habitat
  - rare species as well as fish and game.





# FUNCTIONAL REPLACEMENTS

- Stormwater quantity and quality management
- Large regional detention facilities
- Combined sewer overflow projects
- Stream bank stabilization projects
- Water treatment plants
- Flood relief projects
- Endangered species protections
- Farming – tile drains and pivot irrigation
- Buffer strips
- Infrastructure maintenance/repair





# EXISTING WETLAND





# FUNCTIONAL REPLACEMENT





## TOURISM

“Avoid contact with algae. Avoid swallowing water while swimming. Take a bath or shower with warm soapy water after coming in contact with lake water. Do not use lake water for cooking or bathing. Do not allow your pets to swim or drink water where algae are present.”





# WETLANDS AND CLIMATE CHANGE

- **Climate Change**
  - Too much rain in spring and fall
  - Not enough rain during growing season
  - Extreme weather events
  
- **Wetlands**
  - Surface depressional storage to combat river flooding
  - Groundwater recharge for supply in dry months
  - Sustain flow in receiving streams during dry months

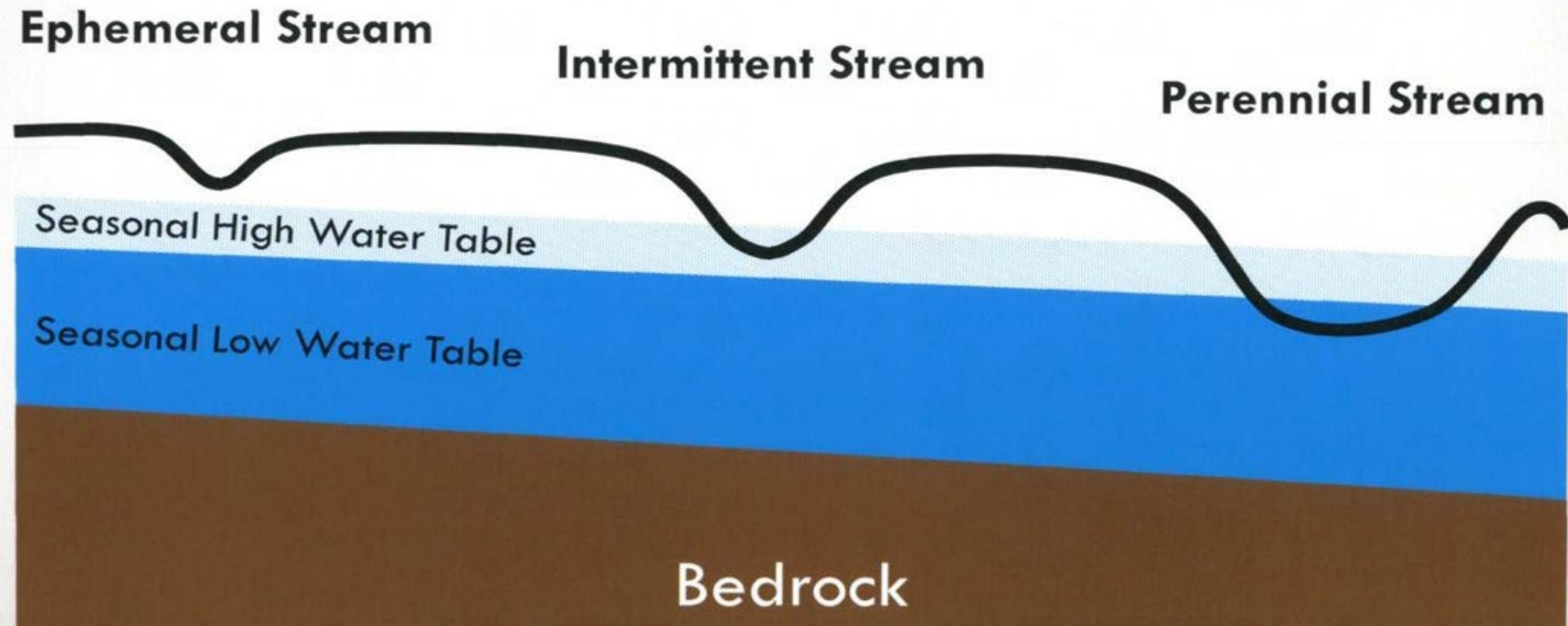




# SHORT COURSE ON WETLAND HYDROLOGY

(LIKE SOOOOUPER SHORT)

## Three Types of Streams







# SHORT COURSE ON WETLAND HYDROLOGY

(LIKE SUPER SHORT)

## Three Types of Streams

Wetland

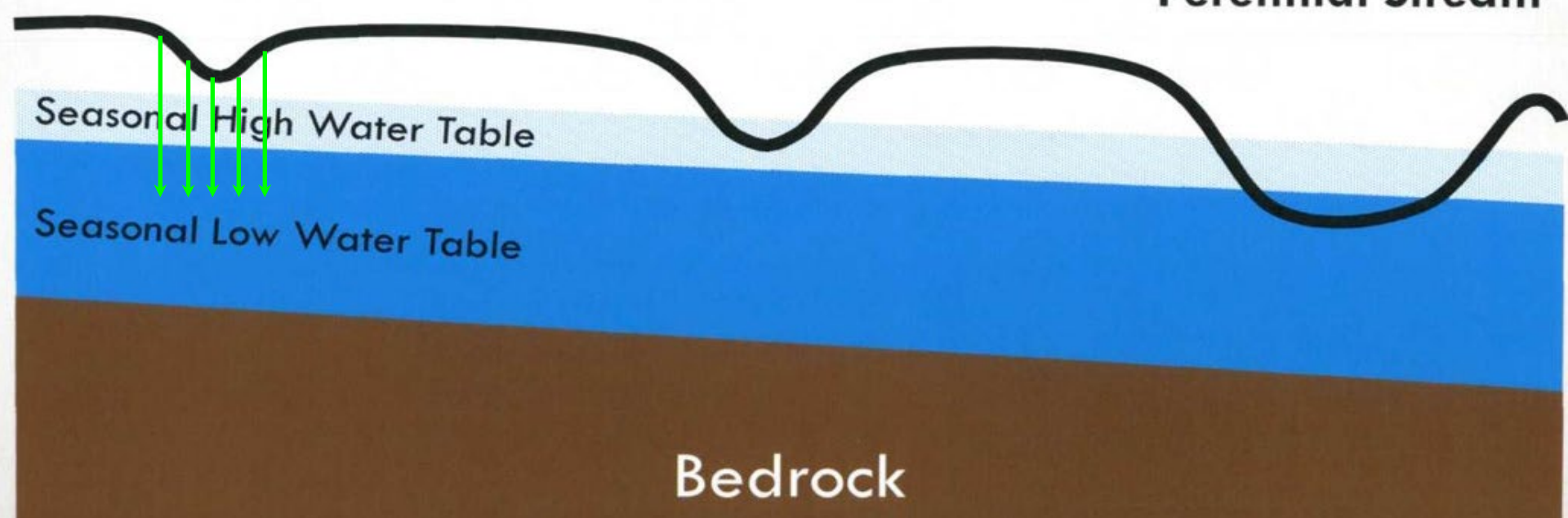
Intermittent Stream

Perennial Stream

Seasonal High Water Table

Seasonal Low Water Table

Bedrock





# ISOLATED WETLANDS

- Geographically Isolated vs. State Regulated
- Just as crucial to interstate commerce as “adjacent” wetlands
- Isolated wetlands plays critical role in sustaining water supply and attenuating floods
- Underestimated role of farmed wetlands



# WHAT CAN YOU DO?

- If you want to build climate resiliency –restore wetlands
- If you want to fight climate change – plant trees, preserve wetlands
- Promote local stormwater policy that protects wetlands and streams
- Join Indiana Wetlands Association and lets continue the conversation
- Support organizations that support conservation.



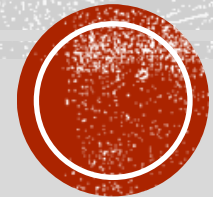


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