Wetlands and Flood Plain Benefits

AACC Members in Support of
Maintaining Wetland Permit Requirements Before Construction

Water Balance on Natural Areas vs. Developed Areas

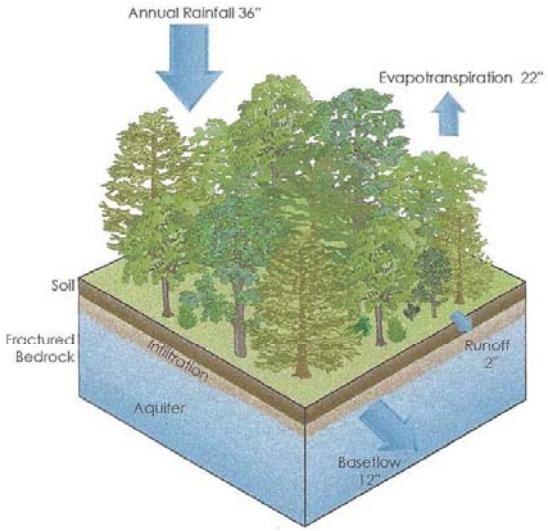


FIG 2.7
Natural Water Balance for Purdue University

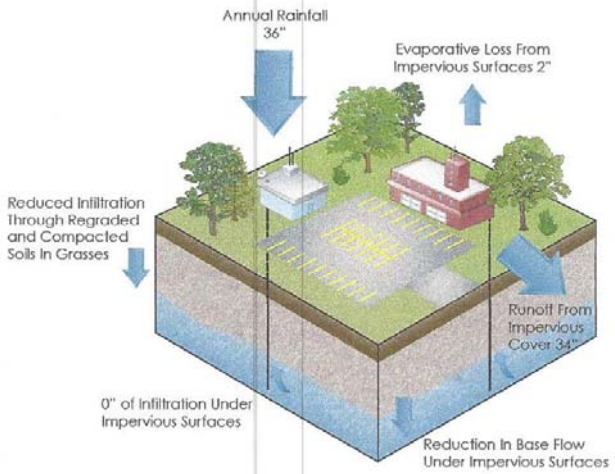
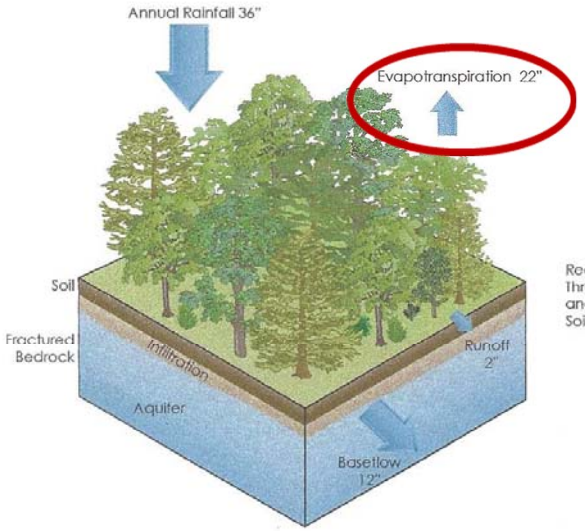


FIG 2.8
Developed Water Balance for Purdue University

Water balance

- Evaporation
- Runoff
- Infiltration

Water Balance on Natural Areas vs. Developed Areas



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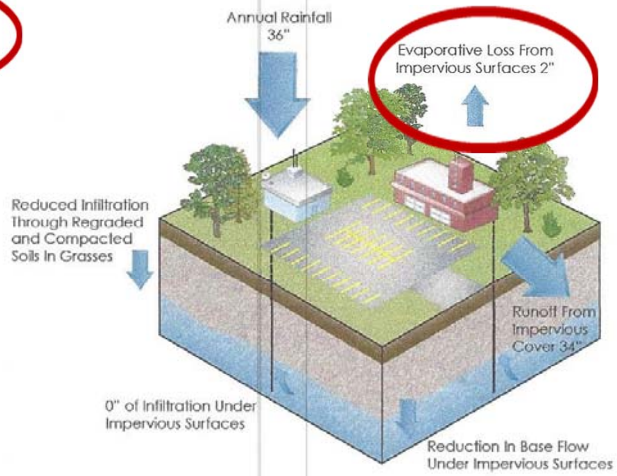

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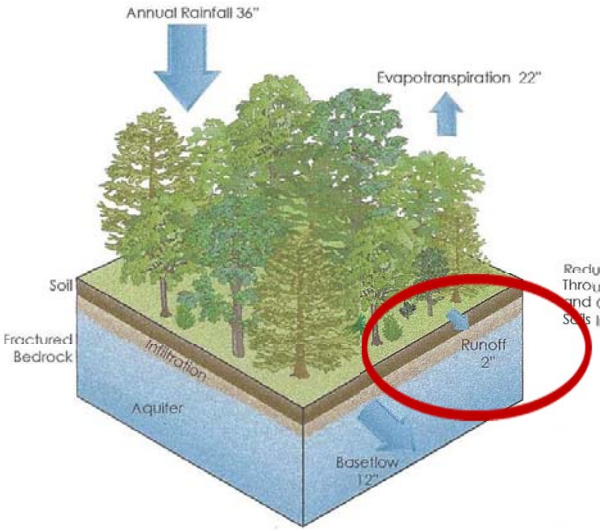

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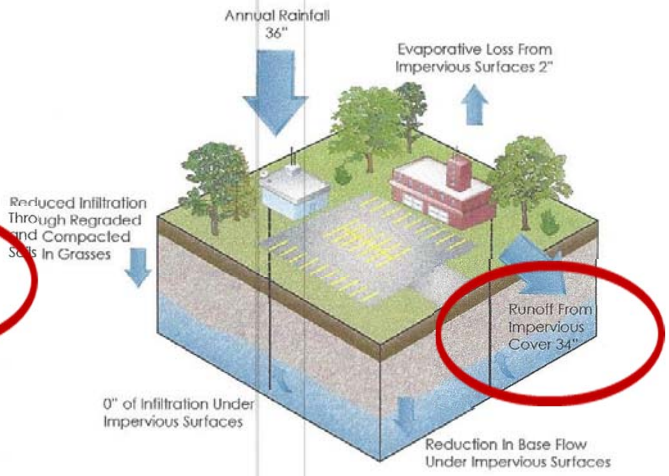

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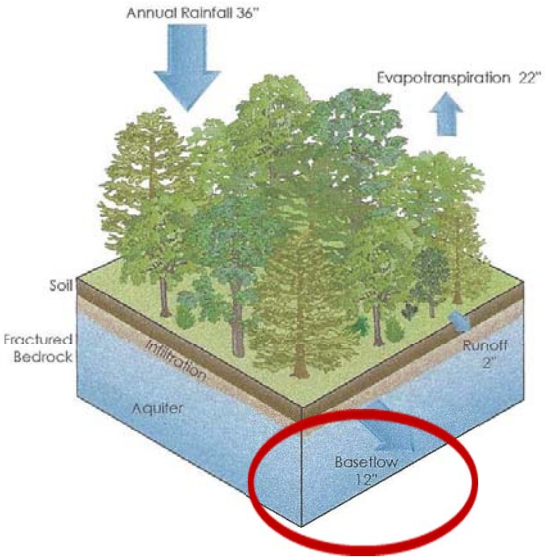

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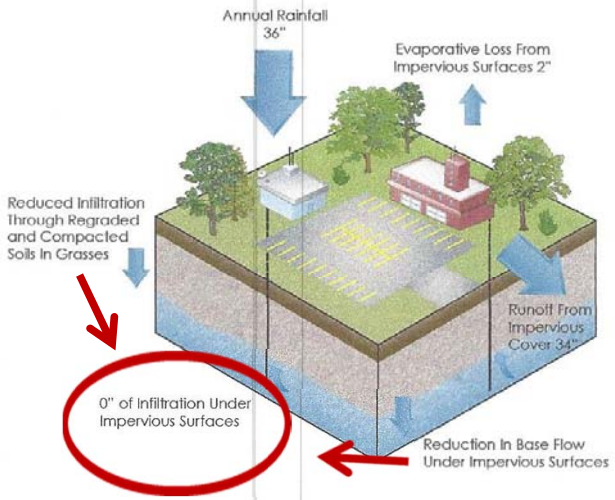

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Developed Water Balance for Purdue University

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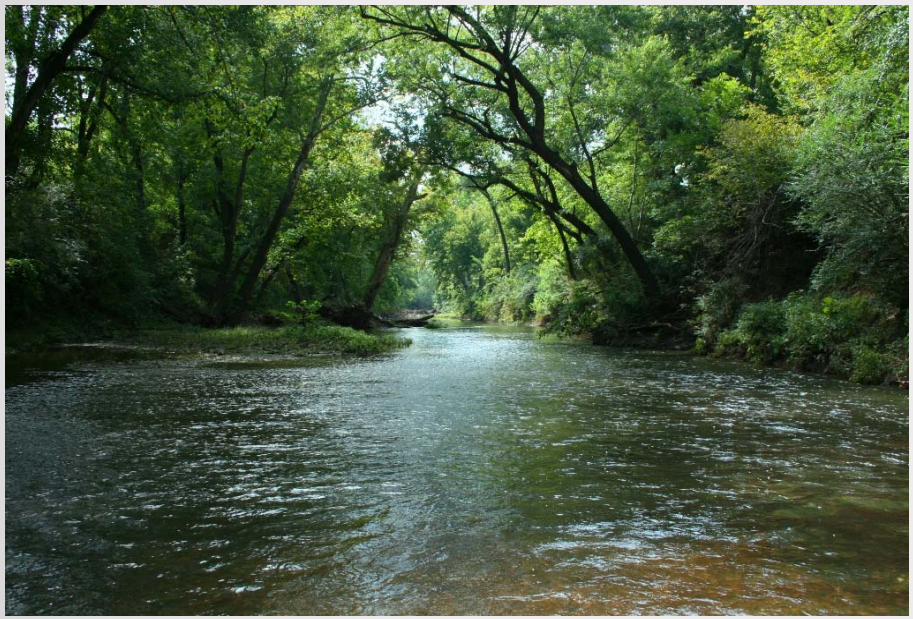
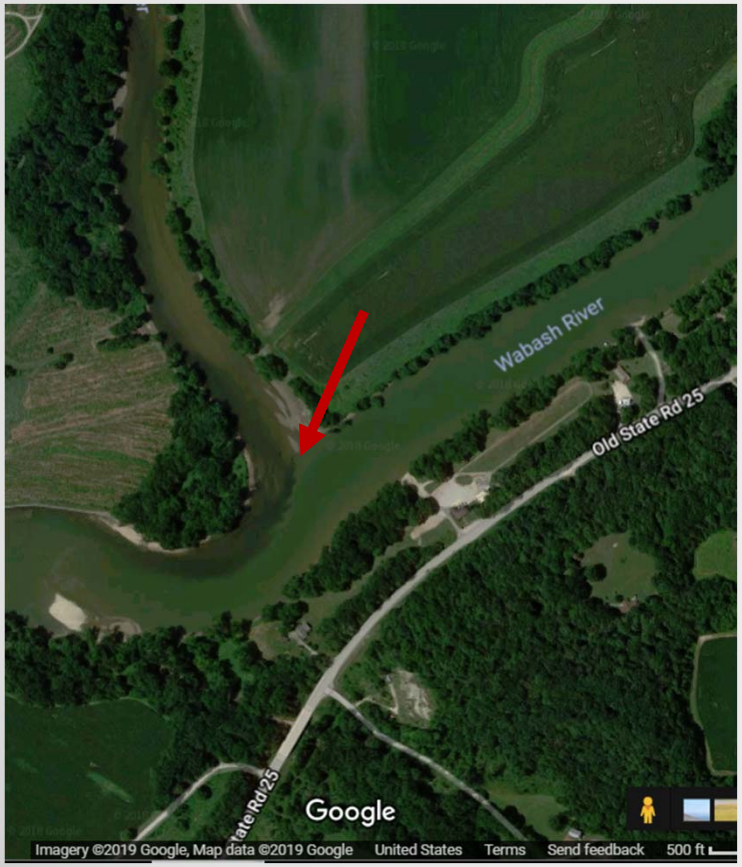
Impacts of Reducing Wetlands or Vegetation



Example of a healthy riparian buffer on the Harpeth River.
Source: Harpethconservancy.com

- Provide habitat & food for wildlife and aquatic organisms
- Root structure stabilizes stream banks
- Control erosion
- Vegetation reduces surface water flow
- Absorbs pollutants in stormwater
- Influences water temperature
- Maintain higher dissolved oxygen levels

Impacts of Reducing Wetlands or Vegetation on Water Quality



Riparian vegetation functions as a large sponge that reduces overland surface flow and absorbs pollutants caught up in stormwater runoff.

- **Turbidity (decreased water clarity)** - Turbidity, the measure of relative clarity of a liquid increases in waters when vegetation is reduced or eliminated.

Turbidity is easily seen at River Junction where the sediment filled Tippecanoe River merges with the Wabash River.
Source: Google Earth

Impacts of Reducing Wetlands or Vegetation on Water Quality

Wabash River at Ft. Quiatenon
Courtesy: Trip Advisor

- Increased water temperature –
  - Loss of shading from trees or overhanging streamside vegetation means waterways become more exposed and are more liable to fluctuate in temperature.
- Cooler water can hold more dissolved oxygen than warm water

Impacts of Reducing Wetlands or Vegetation on Water Quality

Algae Bloom suspected as source of fish kill in the Wabash River in NE Indiana
Credit Andrea Pokrzywinski / https://www.flickr.com/photos/andreagp/2741289470

- **Decreased dissolved oxygen through increased aquatic plant growth -** plants and weeds growing within the waterway are more likely to thrive in unshaded waterways, potentially clogging and stemming flow, which can decrease oxygen levels.

Reasons to Preserve Wetlands Including Flood Plains

- Wetlands, especially in flood plains are critical for major waterways in all counties in the State of Indiana… the Wabash, Tippecanoe, Maumee, St. Joseph, Whitewater, White, Kankakee and Sugar Creek rivers.
- Once these God given resources are destroyed, there is no recovery or repair possible.
- The importance of maintaining natural wetlands and flood plains is not a difficult idea to understand.
- Respect, preserve and protect natural existing state wetlands and flood plains from human activity that would destroy the calculated value of wetlands and benefits that it provided to our citizens.
- Keeping our flood plains, waterways and wetlands intact insures a sustainable and resilient future for our state. We do not want to waste our water as if it was an infinite resource.