Isolated Wetlands Provide Abundant Benefits for Hoosiers

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In 2003, the State of Indiana passed bipartisan legislation to protect *isolated wetlands*, which are defined as "wetlands with no apparent surface water connection to perennial rivers and streams, estuaries, or the ocean." **These isolated wetlands provide ample benefits to the people of Indiana;** they reduce flood impacts, filter out pollutants, protect water quality, provide habitat for wildlife and waterfowl, support outdoor recreation, and store carbon in the landscape.

As researchers at universities across Indiana, we have drafted this document to inform both the public and members of the Indiana State Legislature about isolated wetlands. **We highlight scientifically significant information of the values and services provided by isolated wetlands threatened by SB 389, which would repeal bipartisan protections in place in Indiana since 2003.**

- **Isolated wetlands reduce flooding.** By storing water and releasing it slowly on the landscape, they protect rural and urban areas alike from the impacts of potentially devastating high-cost floods. Their lack of surface connection helps them retain water and makes them potentially even more beneficial for flood storage than hydrologically connected wetlands. *Isolated wetlands in Indiana need to be more fully understood to better inform decisions of potential economic and human impacts of filling or draining them.*
- **Isolated wetlands improve water quality**. They play an important role in maintaining clean water in lakes, fishable streams, and groundwater - a critical source of drinking water. They intercept stormflow and runoff from surrounding lands, such as farm fields and urban areas, and naturally filter and remove excess nutrients and contaminants. *The loss of current protections would adversely affect Indiana's commitment to conservation and clean water.*
- **Wildlife and waterfowl depend on isolated wetlands.** They serve as important reservoirs for biodiversity in Indiana. They provide critical habitats and resources for wetland-dependent species of amphibian, reptile, bird, and mammal, including endangered species such as the crawfish frog, marsh wren, and swamp rabbit. Upland species also depend on the clean water provided by wetlands. *Hunting, trapping, and fishing are important economies (~$1 billion) for many areas of Indiana and without wetlands, these activities - and the tourism dollars that accompany them - would dry up.*
- **Isolated wetlands store carbon.** Wetlands are depressional areas that store vast amounts of carbon – much of which would be emitted to the atmosphere if these areas were drained. Carbon in wetland soils also regulate climate and enhance water quality and biodiversity. *Wetlands contain disproportionately more carbon per acre than other lands, making them an important part of regenerative agriculture efforts.*

The many positive ecosystem services that isolated wetlands provide - flood mitigation, improved water quality, rich wildlife habitats and support for related recreation, efficient carbon storage - are broadly known, but the degree of impact on Indiana's economy, quality of life, and health of its citizens is not. A robust inventory of all wetlands in Indiana has been difficult to achieve in the past, because of the complexity and cost needed for thorough on-site investigations; however, recent technological advances in sensing and UAV capabilities, for example, have created opportunities for doing so in a more economical, efficient and scientifically rigorous way.

We support an efficient, science-based process that safeguards critical functions provided by Indiana's isolated wetlands while providing certainty and clarity for key sectors of our State's economy.

Recommendations

- Maintain current regulations for Indiana wetlands and support investigation of strategies to mitigate costs to builders while maintaining the integrity of environmental safeguards.
- Further investigate flood reduction benefits of isolated wetlands to aid in quantifying flood risk mitigation. Advances in this regard may serve as a model for other states.
- Support studies that connect role of wetlands in maintaining and improving water quality and Hoosier health.
- Strengthen carbon markets in Indiana by studying role of wetlands in storing valuable carbon.