



Wetland research is providing critical information supporting a change in the federal policy of wetland mitigation from a no-net-loss of wetlands to a no-net-functional-loss of wetlands.



School of Environment and Natural Resources

Restoring Wetland Functions

SITUATION

Wetland ecosystems are important because of their role in cleaning and retaining water, preventing floods, and providing habitat and food for a wide variety of plant and animal species. Wetland ecosystems have been recognized for the multiple goods and services they provide to society, and are consequently protected by federal and state laws. In the United States, under Sections 401 and 404 of the Clean Water Act, unavoidable impacts to wetlands must be mitigated through creation, restoration, or enhancement of existing wetlands. After a few decades of implementation, it is unclear whether these sections of the Clean Water Act are resulting in the establishment of fully functional wetlands.

RESPONSE

OARDC/OSU researchers have assessed the development of a variety of wetland functions along a chronosequence of 15 created and natural wetlands.

IMPACT

SENR researchers and their collaborators have determined that some ecological functions (e.g., aboveground plant production) develop fairly quickly (< 5 years) in created wetlands while other key functions (e.g., nutrient cycling) do not reach the rate observed in natural wetlands even after 30-40 years. Consequently, Ohio wetlands are experiencing shifts in both structure (shape, biological composition, location, etc.) and function as a result of mitigation efforts. This information will help state resource and regulatory agencies make better decisions in their permitting activities. Research conducted by SENR scientists and their collaborators indicates that federal policy must shift from one requiring no-net-loss of wetlands to one supporting no-net-functional-loss of wetlands.

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