

Wetland Preservation

In a Nutshell

A wetland is a natural community characterized by soils that developed in saturated conditions and support a diversity of water tolerant plants. The array of species is a function of the seasonal pulse disturbances, such as spring flooding, that occur in that wetland.

There are several types of wetlands including not only marshes and swamps but also oxbow lakes, sloughs, and bottomland forests.

Wetlands serve several ecological functions such as:

- *water storage* which helps to reduce flood heights and reduce risks of property damage and loss of life
- *water filtration* by reducing the level of contaminants such as agricultural nutrients from the water

However, it is important to note that wetlands must be in a healthy state to perform these functions effectively. Unrestricted use of wetlands as depositories of point and non-point pollution (such as urban stormwater) can compromise their functionality. Thus in order to realize the multiple benefits of wetlands, effective management practices are required to ensure the health of the wetland ecosystem.

The “How To”



A suite of best management practices that address stormwater issues and land use can help maintain the delicate equilibrium which can be impacted by atypical stormwater flows. These impacts will help to ensure the long-term health and continued function of historic wetlands may have been so altered (for example converted to cropland) or restoration efforts.

A menu of best management practices focused on the specific water quality issues that impact wetland health. Selecting appropriate best management practices begins with identifying the important characteristics of the wetland.

Identify/Evaluate Desired Natural Wetland Functions

Identify Potential Threats to Wetland Functions

Identify Watershed Management Practices that Address these Threats

Planning & Zoning

The federal government aims to protect wetlands through a number of different avenues. These include regulations through legislation such as Section 404 of the Clean Water Act. Economic incentives in addition to disincentives such as tax deductions for selling or donating wetlands to a qualified organization. More information on Section 404 of the Clean Water Act in addition to the Swampbuster provisions within the Food

Security Act can be found [here](#). Additional programs include cooperative programs and also acquisition through things such as establishment of national wildlife refuges.

Greater information on wetland regulations and procedures can be found on the EPA's Laws, Regulations, and Treaties page [here](#).

Dollars & Cents

Preserved wetlands provide the opportunity for economic gain through tourism. The wetland area of the Florida Keys is estimated to bring in \$800 million in annual tourism revenue. Wetland preservation programs also reduce the damages cause by flood events and storms due to their ability to retain water. The success of these programs can be measured in the savings resulting from their implementation, through either a reduction in the cost of damages or a reduction in the cost of investment in stormwater retention infrastructure.

Measuring Success

The most significant way to measure the success of a wetland preservation program is measuring the number of acres of wetland that remain in an area or in a region. The status of the wetlands is another manner in which to measure the success of the program. A final metric for analyzing the success of a wetland preservation project is to analyze the functionality or the service ability of the wetland.

Discover More

The Environmental Protection Agency's main page on Wetland Protection can be found [here](#).

Case Studies

Watershed Nature Center

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Description



The Watershed Nature Center currently is was being utilized as a city sewage so used as a dumping ground by citizens. In 1991, the Watershed Nature Center members John and Kay Kendall proposed turning the sewage lagoon into a plan was endorsed by the City of Edwardsville and the Nature Preserve

Foundation was formed to manage the land. The Welcome Center was opened in 1995 and visitors began to tour the facility. In 1998, the Nature Preserve Foundation established a relationship with the Edwardsville School District in order to design and implement an Environmental Science curriculum. In 2005, a partnership was established with University of Illinois extension in order to work with students who did not live in District 7 and also adults. The partnership with the school districts ended in 2010 due to financial restrictions from the school districts. In 2012, a director was hired in order to strengthen the volunteer base and also work as a fundraiser for the facility.

Currently, the Watershed Nature Center is in what can be considered a maintenance phase. Originally, two volunteer days per year were established in order to maintain the facility. Currently, there are monthly large maintenance days and also smaller weekly maintenance days. The city owns the lands and also the building for the facility.

Cost

John and Kay Kendall made an initial donation of \$10,000 in order to begin the fundraising process for the Nature Center. They began to then host dinners and other fundraisers in order to raise money. The City of Edwardsville wrote a conservation grant in which it was arranged that the Illinois Department of Natural Resources would match dollars with the fundraising effort of the Nature Center. This resulted in excess of \$100,000 being raised and then that amount was matched by the State of Illinois.

A large number of expenses were avoided by receiving donations in the form of materials and also labor. Citizens donated their time in order to help to build the facility. Local heavy equipment union apprentices also volunteered their services in order to aid in construction. This was done through an agreement between the Nature Center and the union. Shell Oil also donated the fuel for the heavy equipment vehicles that were used.

Lessons Learned

A few lessons have been learned over the lifespan of the Watershed Nature Center. A lot of planning and thought was put into the construction of the Center and its facilities, but more thought should have been considered for the maintenance and the future of the facility. The original plan for the project was to maintain it using entirely volunteer labor, which has not proven to be fully effective and full time maintenance staff is necessary. An additional lesson that has been learned is the significance of continued fundraising efforts. This project was stimulated by an initial successful fundraising push which built up a lot of momentum. This fundraising push was not continued and the project is currently attempting to reignite this fundraising push and success. It would have been simpler to simply maintain the momentum of the fundraising effort over the course of the project. A final lesson was learned regarding the Nature Center's relationship with the City of Edwardsville. An initial agreement was signed when the Nature Center was founded but has since expired, leaving the duties of the City and also the Nature Center unassigned. This further stresses the need for a more sustained approach to the facility and a long range strategy for maintenance of the facility.