

Multi-LCC Mississippi River Basin / Gulf Hypoxia Initiative
High Impact Conservation Practices – Fact Sheets

Suite #2 – Wetland Restoration and Management

Updated 12 February 2016 (draft for review)

WHAT ARE WETLANDS?

Wetlands consist of areas that are either permanently or seasonally saturated and/or ponded with water. The USDA Natural Resources Conservation Service defines wetlands as land that exhibits the following characteristics:

- 1) Contains a predominance of hydric soils
- 2) Is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions
- 3) Under normal circumstances supports a prevalence of such vegetation



Within the Mississippi River Basin, a wide variety of wetland types are present, including emergent marshes, sedge meadows, fens, scrub-shrub wetlands, and forested wetlands (including both floodplain and flatwood forest communities). These wetlands create unique ecosystems that many species of birds, mammals, amphibians, and reptiles rely on to survive. The U.S. Fish and Wildlife estimates that over 50% of the wetlands that once existed in the lower 48 states had been lost by the 1980s, an area amounting to almost 120 million acres. Wetlands are among our most valuable and most endangered landscapes, providing important ecosystem benefit for the landscape, and their continued loss will have long-term negative impacts unless we undertake strategic restoration and management.

WHY WETLANDS?

Wetlands provide a variety of ecological services. They are natural flood control mechanisms, retaining flood waters at times of peak flow before slowly releasing those waters back into the watershed. This delaying mechanism can reduce down-stream flooding and stream flashiness significantly while also maintaining more stable base flows.

Wetlands also improve water quality by reducing sediment and nutrient loading. The hydrophytic vegetation that dominates the wetland filters water as it passes through the ecosystem, removing sediment and pollutants (including excess nutrients) in the process. Wetlands, with their abundance of vegetation and plant diversity, can also serve as significant carbon sinks and can help recharge groundwater. With such a variety of vital ecosystem services, it is critical that wetlands be maintained and restored on the landscape.

WILDLIFE BENEFITS

Wetlands are transitional ecosystems; neither truly aquatic nor truly terrestrial, wetlands provide crucial habitat for a multitude of species ranging from migratory birds to fish. Wetlands are essential as feeding and stop-over habitat for a variety of species, and they are crucial for the early life stages of many fish, reptile, and amphibian species. Providing a multitude of commercial and recreational wildlife benefits, wetlands are some of the most biologically productive landscapes in the United States.

Restoring and managing wetlands so that they maintain essential ecological functions can have a beneficial impact on a variety of species, including migratory waterfowl such as blue-winged teal and gadwall. The greatest benefits to wildlife will be realized by restoring large wetland complexes along with the management capability (i.e., water level control) to maximize habitat conditions and control invasive species.

INSTALLATION & COSTS

Like most restoration initiatives, the cost of restoring and recreating wetlands depends on the type and location of the wetland and the extent of degradation and restoration. Targeting restoration to sites that historically supported the wetland types being restored will not only enhance the success of the restoration and subsequent habitat values, but will also improve the cost effectiveness of the project. However, regardless of the specifics of the situation, wetland restoration and reconstruction requires significant initial investments of time, capital, and a willingness of landowners to dedicate their lands to habitat restoration.

MONITORING

For waterfowl the NAWMP objectives should be cited

Gulf bird monitoring efforts are underway – but that addresses only the southern extent. Otherwise, Joint Ventures should be consulted (Lower Mississippi Valley Joint Venture – Dr. Anne Mini)

LIMITATIONS/CONSIDERATIONS

Education and outreach, particularly with consulting foresters and land managers; recognition and adoption by additional agencies and NGOs that wildlife forestry is another tool in the management toolbox that can be used to achieve specific objectives; cost-share incentives for initiation costs associated with implementation – a) inventory, b) administering the sale, c) checking on the loggers, and d) other planning/mapping/archiving. These practices create income, but initial costs prevent broader adoption.

RESEARCH, PROGRAMS, AND MORE INFORMATION

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/water/wetlands/>

<http://www.fws.gov/wetlands/Documents/Status-and-Trends-of-Wetlands-in-the-Conterminous-United-States-2004-to-2009.pdf>

<http://nepis.epa.gov/Adobe/PDF/40000LUU.PDF>

Martinuzzi et al. (2015) in Ecological Applications entitled, "Future land-use scenarios and the loss of wildlife habitats in the southeastern United States" <http://www.esajournals.org/doi/pdf/10.1890/13-2078.1>

Wetland Restoration - Ducks Unlimited – in the Lower MS this would be Tim Willis out of the Southern Regional Office Ark-LA-MS (601-956-1936) and Mike Carlross in Louisiana (377-519-3772)

OPPORTUNITY AREAS

(TBA)

SOURCES

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/water/wetlands/>

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