

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

Practice #6 – Lower Floodplain Reforestation

Updated 18 February 2016 (draft for review)

WHAT IS FLOODPLAIN REFORESTATION?

Much of the Mississippi River Basin lies within what is known as the Mississippi Alluvial Valley. Consisting of a vast network of floodplains and bottomland hardwood forests, this alluvial valley forms the heart of one of the most biologically diverse ecosystems in the world. However, these once voluminous hardwood forests are fast disappearing from the landscape. As a result, the numerous ecosystem services that these forests and floodplains once provided are disappearing as well. Floodplain reforestation is the process of strategically re-establishing these traditional forest ecosystems in critical locations to provide maximum benefits for people, fish, and wildlife.



WHY FLOODPLAIN REFORESTATION?

Bottomland hardwood forests serve two primary hydrological purposes. First, they function as floodplains, storing and retaining floodwaters at times of peak flow. Second, they also serve as important nutrient and other contaminant sinks. Similar to how the forests store and retain floodwaters at times of peak flow, they also filter, store, and release soils and nutrients. This valuable cycling process results in the uptake of organic and inorganic nutrients that would otherwise contribute to the hypoxic dead zone at the mouth of the Mississippi River.

Furthermore, recent trends show that farmers are more and more likely to farm so-called marginal lands such as the floodplains that bottomland hardwood forests occupy. A high-risk undertaking, these floodplain fields of course flood regularly, contributing to large fluxes of soil and nutrients downstream in the process. By restoring some of these marginal lands to bottomland hardwood forests, we can both provide substantial wildlife habitat and water quality benefits.

WILDLIFE BENEFITS

One of the primary threats to species native to bottomland hardwood forests is habitat loss. Deforestation for development and other purposes has forced these species into smaller and more fragmented habitats. As a result, species native to the bottomland hardwood forests of the Mississippi Alluvial Valley are some of the most threatened in the entire Mississippi River Basin. The first step to recovering some of these disappearing species is to restore their native habitat—the bottomland hardwood forests.

However, quantity is not always better than quality. As already mentioned, a major threat for many of these bottomland hardwood species is habitat fragmentation. Thus, bottomland hardwood reforestation should be undertaken with a focus on reconnecting habitat fragments to form larger contiguous parcels that support larger and healthier wildlife populations. Furthermore, vegetation composition and diversity should be taken into account when undertaking restoration efforts, and new restoration efforts should be targeted to types of habitat and locations that have not been well represented by previous conservation efforts (e.g., high elevation tracts).

Overall, by restoring native hardwood forest and by creating large contiguous tracts of critical habitat, we can have a positive effect on many species of wildlife, including but not limited to birds, fish, reptiles, and mammals. In particular, restoring hardwood forest can provide positive benefits for the Acadian flycatcher, the Kentucky warbler, the prothonotary warbler, the red-headed woodpecker, Swainson’s warbler, swallow-tailed kite, wood ducks, and wood thrush.

INSTALLATION & COSTS

Floodplain re-forestation requires significant upfront capital and may be difficult for individual landowners to engage in unilaterally. In addition, as the majority of the target floodplains are privately owned, it may be necessary to compensate land owners for what they view as a loss of productivity.

MONITORING (TBA)

Population targets and monitoring from the Joint Ventures (LMJV).

LIMITATIONS/CONSIDERATIONS

As already mentioned, the majority of target floodplains are located on private lands. This means that in order to pursue reforestation efforts on these lands requires the consent and participation of the landowners. This may require some sort of financial incentive or education program to make the reforestation program more attractive to private land owners.

RESEARCH, PROGRAMS, AND MORE INFORMATION

Lower Mississippi River Conservation Committee: <http://www.lmrcc.org/programs/lower-mississippi-river-batture-reforestation/>

Wetland Reserve Easement through the Agricultural Conservation Easement Program (ACEP)—
contact state NRCS offices.

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OPPORTUNITY AREAS

TBA

SOURCES

LMVJV Forest Resource Conservation Working Group. 2007. Restoration, Management, and Monitoring of Forest Resources in the Mississippi Alluvial Valley: Recommendations for Enhancing Wildlife Habitat. Edited by R. Wilson, K. Ribbeck, S. King, and D. Twedt.