For More Information

This is a new approach to river management. If you have questions or comments, please call or write the following persons:

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Water Level Management
Upper Mississippi River

An Opportunity to Improve Habitat

Changes in River Habitat

"Old man river" and "old muddy" are common expressions used to describe the timeless quality of the Upper Mississippi River. But in another sense, the Upper Mississippi River is quite new. With the building of locks and dams in the 1930's to improve the river as an economic transportation corridor, a new river was created. The free-flowing river was transformed into a series of navigation pools, each with a sizable lake-like area above the lock and dam.

For several decades following construction of the navigation dams, the pools of the Upper Mississippi River supported a wealth of fish, wildlife, and aquatic habitat. Many long-time river users have fond memories of the great fishing and hunting that existed during this period. Unfortunately, the once plentiful habitat is gradually deteriorating because the artificial pools are aging.

Aging is a normal occurrence when a river is dammed to form a reservoir – the Mississippi River is no exception. The locks and dams created lake-like areas upstream from the structures with relatively stable water levels. These areas had a variety of water depths and numerous islands that supported a rich variety of fish and wildlife. Over the years, erosion and sedimentation have changed these areas into large expanses of open water that provide little fish and wildlife benefits.

Prior to construction of the navigation system, water levels typically dropped during summer months allowing areas along the water's edge to dry out and firm up. This drying effect encouraged plants such as bulrush and arrowhead to grow. With the more stable water levels in the lower end of the navigation pools, this low-water effect and drying of sediments no longer occurs. Plant beds that depend on this drying process have decreased in quantity or disappeared entirely. These plant beds are critical for the survival of fish and wildlife populations because they provide food, shelter, and oxygen.

Water Level Management as a Tool for Habitat Restoration

River managers and other river partners are considering water level management as a tool for restoring river habitat. Although not a cure-all, it does hold promise as one means of renewing critical river habitat.

Water level management is:

- a temporary seasonal increase or decrease in water level,
- a management tool used to mimic natural drying cycles,
- a chance to benefit a few acres to several thousand acres,
- a tool that has been used to restore aquatic and wetland plants that support fish and wildlife.

Water level management is not:

- a complete drainage of a navigation pool,
- a uniform water level change throughout the pool; change would be the greatest at the lock and dam and become less pronounced upriver,
- a one-time solution for restoring habitat; it must be repeated occasionally.