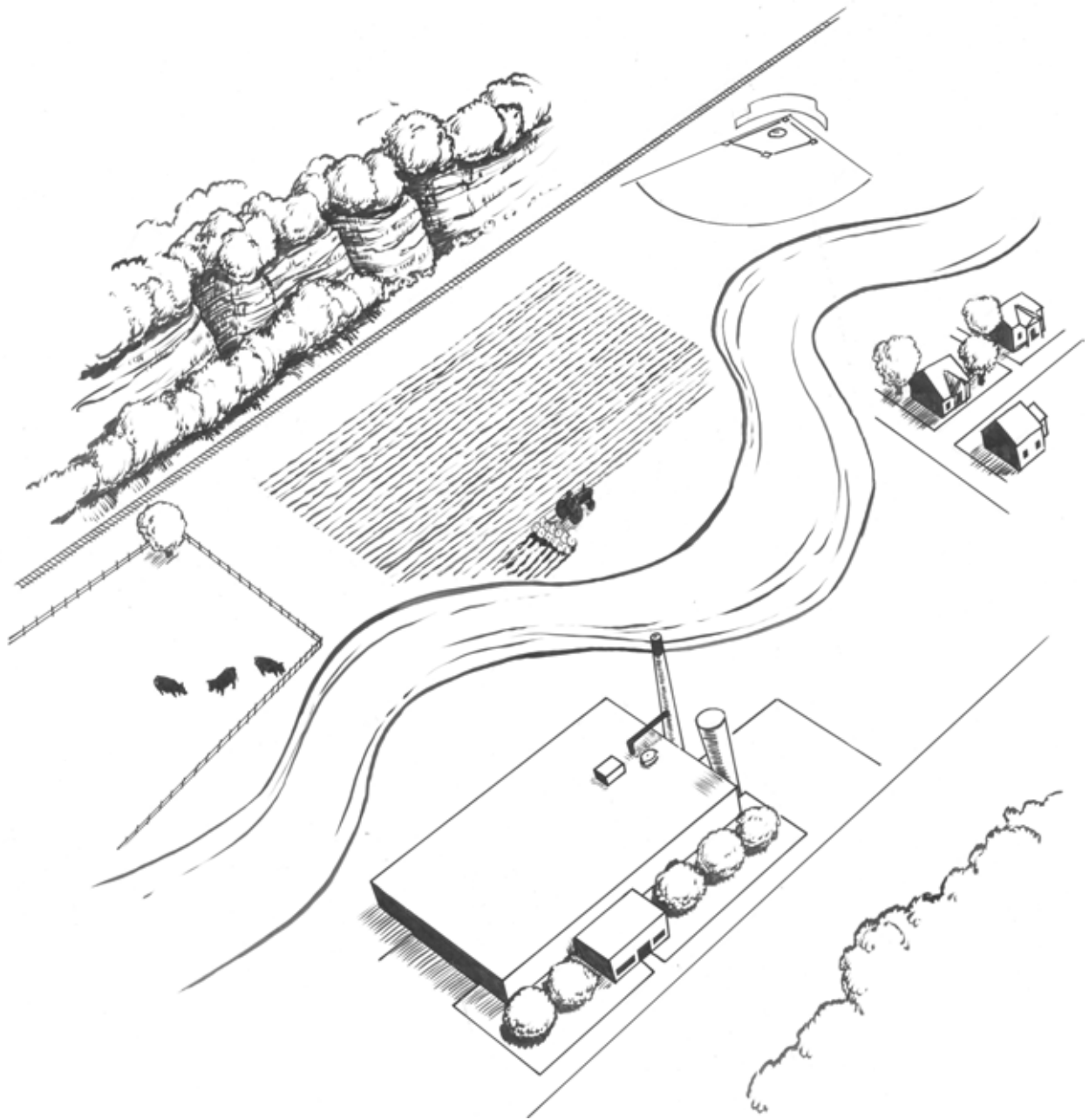


Flood Plains and Wetlands Module

A flood plain is the land immediately adjacent to the stream that is periodically inundated with water. Wetlands are located in flood plains and provide critical functions to water quality and quantity. Flood plains and wetlands provide varying opportunities for all types of use depending on flood patterns, flood plain development, and watershed conditions.



Introduction

The flood plain of a river is a relatively level area on both sides of the stream channel that carries excess waters the channel cannot handle at various times. During a flood, the flood plain becomes the additional part of the stream to do the extra work for the stream channel. The flood plain allows flood waters to spread out, thus reducing the flood water's potential energy. As a result, less damage occurs downstream. If the flood plain is not allowed to work properly and the channel is forced to handle more of the flow, the stream will erode. The Missouri River, for example, has been shortened by 130 miles and is one-third its original width. Channelization and dredging have caused the disappearance of 98 percent of the river's sandbars and islands. Today, one-fifth of the river's native species are endangered. Dredging continues for barges which transport one-tenth of one percent of the grain grown in Missouri, Iowa, Kansas, and Nebraska.

In relatively undisturbed Missouri watersheds, floods large enough to require that use of the flood plain occur about every two to two-and-a-half years or less. People, however, tend to forget the function of flood plains. Communities build roads, developments, and levees in flood plains resulting in property being destroyed during floods. In addition, land use practices in a watershed ultimately affect the water quantity and quality in a flood plain. Best management practices help to prevent excessive runoff, water pollution, and erosions.

Flood plains contain wetlands which function to slow and filter flood water. Wetlands also provide habitat for a diversity of wildlife. What constitutes a wetland? Three federal wetland definitions exist. Each is based on the three elements of a wetland—hydrology, hydric soil, and hydrophytic vegetation. The following definition is also based upon these three elements: Wetland—a landform periodically covered or saturate by surface of groundwater, with predominantly hydric soils and, at least periodically, supporting hydrophytic vegetation.

The characteristics that distinguish wetlands from other ecosystems make it difficult to clearly define their boundaries. The eight types of natural Missouri wetlands are swamp, shrub swamp, forest wetland, marsh, wet meadow, fens and seeps, pond and lake borders, and stream beds. Missouri has lost more than 90 percent of its wetlands. The Bootheel which was once composed of wetlands has been channelized to drain the area. Today resource agencies are trying to restore wetlands because of the important functions they play. These functions include reducing flood heights, improving water quality, reducing runoff and erosion, providing an environment for a diversity of plant and animal life, and helping sustain base flow of adjacent streams and rivers during drought conditions. Best management practices include leaving filter strips and field borders along wetlands and streams.