

The Natural and Beneficial Functions of Floodplains

Floodplains are the low areas adjacent to rivers, lakes, and oceans that are periodically flooded at intervals of varying frequency. Floodplains are important components of their respective watersheds. Watersheds are defined areas of land that drain water, sediment and dissolved materials to a common outlet at some point along a stream channel. Floodplains are hydrologically important, environmentally sensitive and ecologically productive areas within a watershed that perform many natural functions. They contain a wealth of cultural and natural resources that are of enormous value to society.

Riverine floodplains, such as the floodplains found in Jefferson County, vary in steepness, width, stream flow, sediment deposition and erosive characteristics. This becomes readily apparent as one moves downstream from narrow headwater streams to lower gradient streams with wider floodplains. The natural functions that are associated with a particular floodplain depend in part on its location within this continuum. The frequency, duration and extent of flood events will vary among different types of floodplains, dependent upon their hydrology, geomorphology, and amount of floodplain development.

Floodplains are formed and modified by the dynamics of stream and river migration and periodic flooding. Although many riverine floodplains usually flood during the spring, they can also experience multiple flood events within the same year with duration varying from hours to days. Periodic flooding of riverine systems and the related processes of erosion and deposition determine, to a considerable extent, the shape of the floodplain; the depth and composition of soils; the type and density of vegetation; presence and extent of wetlands; richness and diversity of wildlife habitats; and depth to the groundwater.

The major flood conveyance component of the floodplain is the floodway. The National Flood Insurance Program defines the floodway as that area of the watercourse and adjacent floodplain necessary to carry the base flood without increasing the water surface elevation more than a designated amount (generally one foot). The base flood is the flood that has a one

percent chance of being equaled or exceeded in a given year. Communities are required to prohibit development within the floodway that would cause an increase in flood heights. This requirement has the effect of limiting development in floodways that in turn helps to maintain some of the floodplain's most important natural resources and functions.