

# Watershed Management

Understanding how watershed protection strategies could help communities better manage their floodplains



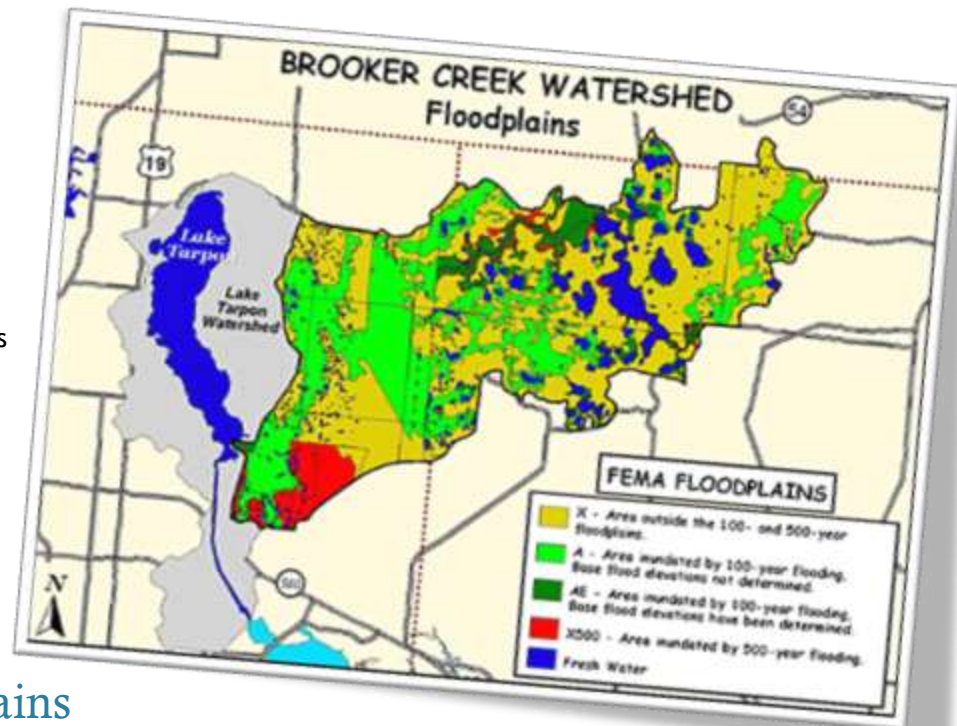
## The Watershed Approach

We all live in a watershed – an area of land that drains to a common waterway, such as a stream, lake, estuary, wetland, aquifer, or even the ocean.

Many watershed organizations, local governments, tribes, and state and federal agencies are now working together to manage water quality at the watershed level using a step-by-step watershed management process. This process uses a series of cooperative actions to:

- characterize existing conditions,
- identify and prioritize problems,
- define management objectives,
- develop protection or remediation strategies, and
- implement and adapt selected actions as necessary.

A watershed plan documents the expected outcomes of this process and serves as the action agenda for managing water quality at the watershed level.



## Connection to Floodplains

Floodplains are a critical component of the watershed that should be addressed in a watershed plan. Many of the key actions put forth by watershed managers for water quality or other ecological benefits also promote flood safety.

*Example watershed map showing FEMA floodplains.*



## Riparian Buffers

The term riparian buffer is used to describe areas where banks of a surface waterway are lined with vegetation. They are often thin strips of native grasses, flowers, shrubs and trees that line stream banks. They are also called vegetated buffer zones. They can occur on one or both sides of the waterway and are known to protect the health of the aquatic ecosystem, slow down the flow rate of the stream, and promote the stabilization of a river's banks.

## Wetlands

Long regarded as wastelands, wetlands are now recognized as important features in the landscape that provide numerous beneficial services for people and for fish and wildlife. Some of these services include protecting and improving water quality, providing fish and wildlife habitats, storing floodwaters, and maintaining surface water flow during dry periods. Creation or restoration of wetlands is commonly promoted in watershed management as a cost effective watershed protection strategy.



## Flood Mitigation

When floodwaters submerge urban and agricultural lands, pollutants such as chemicals, heat, salt, sediment, and trash are drained into waterways when the overflow subsides. A riparian buffers' vegetation has deep roots that allow water to drain down, rather than across, soils and other surfaces adjacent to waterways. This recharges groundwater and reduces a flood event's overall impact on pollution levels in surface waters.

Wetlands act as nature's sponges, holding large volumes of water and releasing them gradually into streams and aquifers. As the level of water in the lakes, rivers and streams begin to decrease the wetland will release the water at a rate they can handle.

## Remember ...

We all live in a watershed. Floodplain managers are important stakeholders in the watershed planning process. Establishing or expanding wetlands and riparian buffers along streambanks are commonly pursued by watershed managers for the water quality benefits they provide, but these features also serve important functions for flood mitigation.