Watershed 101

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Content

- In this training we will:
  - Discuss the value of water resources
  - Introduce the concept of a watershed
  - Provide an overview of watersheds and Missouri Hydrologic Units
  - Discuss cause and affect of activities affecting water quality
Definitions

- **Hydrologic Unit Code (HUC)**
  - Classification System; More digits = smaller area
- **Watershed or Basin**
  - The land area that drains to a common waterway, such as a stream or a lake
- **Point Source**
  - One clearly identified source
  - Regulations prescribe limitations on their discharge
- **Nonpoint Source (NPS)**
  - A source that cannot be defined to originating from one, discrete point.
  - Many times there are multiple contributors
  - Work to address nonpoint sources is voluntary
The Value of Water and the Watershed

- All of us depend on clean, abundant water; it affects our health, industry, commerce, recreation, etc.
  - 66% of Missouri citizens use surface water for main water source and 34% use ground water for their main water source.
- Two leading industries in Missouri are agriculture and tourism – highly dependent on clean, abundant water
- So what does this have to do with why watersheds matter?
- Healthy, protected watersheds can ensure clean, abundant water for drinking, irrigation, industrial processes, and recreation. The condition of a watershed directly affects the quality and quantity of water in a lake, river, stream or wetland.
What is a Watershed?

The land area that drains to a common water-body, such as a stream or a lake

- Everyone lives in a watershed! We might live in a community or in a rural area, but you’re always in a watershed.

- All of our activities affect our watershed and impact our valuable water resources.

- The term watershed and basin are often used synonymously.

- Watersheds come in different sizes...
A watershed can be large, such as the Mississippi River watershed.

A watershed can be small. There are 66 HUC-8 watersheds in Missouri. At the HUC-12 size, there are nearly 2,000.
Our focus is on the 8 digit Meremac HUC. This covers an area from almost Licking to the Mississippi River.
Watershed Characteristics

- There are some basic watershed characteristics that can help us identify sensitive areas.
- Information can help us see trends that may lead to impacts on our water resources.
  - Geology & soil type
  - Geography & slopes
  - Climate and rainfall
  - Land use
  - Land cover
  - Types of industry
  - Population (growing/shrinking)
Common Watershed Stressors

- Point sources
  - Activities that directly discharge to water
- Nonpoint sources
  - Sediment
  - Nutrients
  - Bacteria
  - Pesticides
  - other
- Population growth can lead to more urban areas, which leads to more stormwater runoff
- New industry can change the demands on water supply
Cause and Effect

- Just listing potential watershed stressors may not give us a clear picture of what they cause.
  - Soil erosion – habitat loss
  - Nutrient runoff /fertilizer – algae growth and low DO
  - Organics in water – can mean soil, plant materials, etc. May be caused by soil erosion and nutrient loading
  - Algae blooms/Blue Green Algae – partially caused by excessive nutrients and suspended sediment
  - Low DO – caused by not enough shade, too much algae, etc.
Once we have identified possible pollution sources we need to identify practical solutions that help minimize the impact.

- Inventory the human resources available
- Identify people that can provide technical, educational and financial support
  - Agency, watershed groups, local citizens, etc.
- Find resources to develop solutions for areas of concern
- Identify the practice(s) to reduce the potential pollution source
  - NRCS, MDC, SWCD, Ext, County/city stormwater, etc.
Successful Watershed Planning

- Should be a voluntary approach
- Involves the different interest in the watershed
- Incorporates local input
- Needs local buy-in to make it successful
- Changes as new information becomes available or as implementation occurs
- Is as successful as local residents want it to be
Questions????

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