

## Module 4: Land Use Impacts and Related Best Management Practices Agenda

*“This module will evaluate the different land uses across the state and the ways that they can affect water quality. Participants will learn how to access and display land use coverage maps, as well as evaluate land uses for potential water quality impacts. Following the discussion of general land uses, a categorical explanation of associated best management practices will be presented, including those related to urban, agricultural, wastewater, resource extraction and forestry activities.”*

### May 6, 2020

#### **1: Land Use and Water Quality (60 minutes)**

Beginning with a review from Module 3, this presentation discusses the effects of impervious surfaces, the role of soil and geology in green infrastructure and how to find land use information. The WikiWatershed tool is introduced.

#### **1.1: WikiWatershed Tutorial (15 minutes)**

Brief tutorial on how to obtain land use information through the WikiWatershed tool.

### May 13, 2020

#### **2: Selecting BMPs (40 minutes)**

Introduction of best management practices and various methods of categorizing them. Presentations walks through the steps in the process of selecting best management practices and various selection considerations.

#### **3: Agricultural Land Use and BMPs (40 minutes)**

This presentation discusses various livestock and crop-related BMP options available to farmers with guidance on how to initiate discussion on implementation with the ag community. The Kentucky Agriculture Water Quality Plan requirements and enforcement are also considered

### May 20, 2020

#### **4: Wastewater Management BMPs (45 minutes)**

A historical overview of wastewater best management practices utilized by various civilizations is used to introduce the concepts behind wastewater treatment technologies. Modern treatment options and limitations are discussed.

#### **5: Urban Land Use and BMPs (70 minutes)**

Typical targeted pollutants for urban BMPs are discussed with the concepts of green versus gray infrastructure introduced. Examples of structural and non-structural BMPs are described with some attention to municipal stormwater pollution control requirements

### May 27, 2020

#### **6: Forestry BMPs (30 minutes)**

The forestry industry in Kentucky is overviewed, and the requirements of the Kentucky Agricultural Water Quality Act, Kentucky Forestry Conservation Act, and Master Logger Program are introduced. The Kentucky Logging BMP Field Guide is used to cover the minimum water quality BMP requirements for logging sites.

#### **7: Mining BMPs (40 minutes)**

The general process and geography of mining in Kentucky are overviewed as well as the pollutants of concern and the process of acid mine drainage generation. The Surface Mining Control and Reclamation Act as well as Kentucky mining law requirements are introduced. The Kentucky Coal Mining Practice Guidelines for Water Quality Management are used to provide guidance on BMPs with expanded coverage on passive mine drainage treatment. Success stories from Kentucky and other states are provided as examples.

#### **8: Stream and Floodplain Restoration BMPs (40 minutes)**

While stream restoration design typically requires a licensed engineer, this presentation is intended to introduce watershed coordinators to the concepts and purposes of stream restoration and types of structures which designers utilize to aid in conceptual planning. Practices are introduced according to their lateral location to the stream channel moving from the floodplain, to the riparian zone, to the stream banks, and finally to the channel.