Living Along a Kentucky Stream
Leader's Guide

Introduction

Over 90,000 miles of rivers and streams are found in Kentucky. These miles of streams and rivers touch Kentuckians every day. You probably know of a stream that flows nearby your home. Streams provide flood control, wildlife habitat, recreation, and most importantly, a source of water that is used in thousands of ways. But, the quality of a stream is only as good as the land that surrounds and drains into it. That is why it is important to practice good stream stewardship.

Stream stewardship is the idea that all of us are responsible for and benefit from the sensible use of streams that flow through our property and make up our watershed. Stream stewardship is best achieved when we understand how streams work, what might threaten a stream's health, and what personal actions we can take to reduce or eliminate these threats.

Streams are systems that constantly change over time. Most natural streams have basic components. Pools are deep areas that contain fine materials such as sand. These areas are good homes for fish. Alternating with the pools are areas known as riffles. Riffles are shallow areas with large materials like rocks and boulders. Streams also have components outside of the channel itself. Floodplains, buffer zones, and wetlands are also important features of a stream.

There are simple things we can do as citizens and landowners to protect the health of our streams. Maintaining healthy streams and improving damaged streams ensures that we will all continue to benefit from Kentucky's wealth of waterways.

Lesson Purpose and Objectives

Purpose: This lesson is designed to promote the maintenance of healthy streams and increase landowner awareness of stream stewardship.

Objectives: This lesson guide contains a lot of information about living near streams in Kentucky. It may be difficult and overwhelming to teach all of the material in one session. It is best to focus on only *two or three* of the following objectives:

- Understand the concept of stream stewardship.
- Learn the components of a stream.
- Explore practices that will create and maintain a healthy stream buffer zone.
- Understand the importance of maintaining onsite wastewater treatment systems.
- Learn how to keep streams natural.
- Explore ways to become a good stream steward.

Target Audience
Examples of potential audiences in your community include Master Gardeners, local producer organizations/associations, Kentucky Extension Homemakers Association members, neighborhood associations, 4-H clubs, schools, faith-based organizations, and local parks and recreation employees.

Suggested Resources and Materials

- **Publications** (Available via the University of KY Agricultural Communications Online Publication website at http://www2.ca.uky.edu/agcomm/pubs.asp.)
  - *Living Along a Kentucky Stream* (IP-73)
  - *Restoring Streams* (AEN-122)
  - *Keeping Trash Out of Streams* (AEN-119)
  - *Planting a Riparian Buffer* (ID-185)
  - *Riparian Buffers: A Livestock Best Management Practice for Protecting Water Quality* (ID-175)
  - *Planting Along Your Stream, River, or Bank* (HENV-202 Low Literacy)
  - *Understanding Kentucky's Watersheds* (HENV-206)
  - *Trees, Shrubs, and Vines that Attract Wildlife* (FOR-68)
  - *Improving Yard and Garden Care* (IP-62)
  - *Septic System Maintenance* (HENV-501)
  - *Financial Assistance Guide for Conservation Practices in Kentucky* (FOR-94)

- **Activities and Resources**
  - *Stream Component Quiz* – A quiz sheet that could be used as a pre-lesson or review activity.
  - *Stream Stewardship Discussion* – A guide to discussion topics about stream stewardship.
  - *Living Along a Kentucky Stream Crossword Puzzle* – A crossword puzzle to review lesson objectives.
  - *Living Along a KY Stream – Stream Component Quiz* – A quiz to review the components of a stream.
  - *Living Along a KY Stream PowerPoint Presentation* (with talking points)

Suggested Teaching Techniques and Activities

- Open the lesson by asking each participant to name a stream close to their home. Ask them to describe the stream and how it affects their life. Present *Living Along a Kentucky Stream* PowerPoint presentation (which includes talking points).
- Have participants visit a local stream and describe what is seen. Go as a group if you can, and follow-up with the *Stream Stewardship Discussion* noted in the *Suggested Resources and Materials* section of this guide.
- Examine native plants suitable for planting along stream buffer zones. A local expert (such as a County Extension Agent for Horticulture) could assist in this activity.
- Facilitate a stream clean-up event. Have participants pick up trash along a stream or in the local community (such as at a park or school). Ask local businesses to donate gloves and trash bags for the event.
- Close the lesson by having participants list activities they can do to be a good stream steward.

Suggested Evaluation Techniques

- Use the *Living Along a Kentucky Stream Crossword Puzzle* and/or the *Stream Component Quiz* to review key points.
- An evaluation, follow-up evaluation, and example success story are provided for this lesson. The *Level of Understanding* and *Behavioral Change* sections of the evaluation can be changed to address the specific topics (e.g., stream stewardship, stream components, stream buffer zones, etc.) discussed during your program. In addition, the follow-up evaluation and success story example can be adapted as needed. If you have questions please contact Ashley Osborne at ashley.osborne@uky.edu.
- At the close of the program:
    - Give each participant an evaluation form to complete and turn in.
    - Give each participant an envelope. Have participants write their name and mailing address on the envelope. In 6 months, send a follow-up evaluation (and self-addressed envelope) to participants using the addressed envelope. Ask participants to complete the follow-up evaluation and mail back to you.
- Please send all evaluations to Ashley Osborne at ashley.osborne@uky.edu. Ashley will compile data and send back to you electronically.

Reporting Impacts (*Information for County Extension Agents)*
Use the following priority indicators and program accomplishment (PAC) codes when reporting impacts as a result of this program. Information taken from the FY14 Program Accomplishment Codes (PACs).

Priority Indicator
Goal 6 – Natural Resources and Environment

- (69) Number of individuals adopting practices (recommended by Extension) that ensure safe water
- (75) Number of individuals who made a lifestyle change for the purpose of improving water and/or natural resources (due to recommendations from Extension)
- (77) Number of youth reporting an increase in knowledge of science relating to natural resources and the environment
- (78) Number of youth demonstrating skills learned from participation in 4-H science projects (related to natural resource and the environment)

PAC Code

- 170 Environment and Natural Resources
- 250 Promoting Healthy Homes and Communities
- 488 Water Education

Prepared by Amanda Abnee Gumbert, 2004. Revised by Ashley Osborne, 2014.
Environmental and Natural Resource Issues Task Force.