Agriculture Water Quality Planning

Amanda Gumbert

Conservation District Employee Training
January 2012
KY Agriculture Water Quality Act

- 10+ acres in agriculture or forestry must develop a water quality plan

- Plan includes Best Management Practices (BMPs) to protect water quality

- Established the KY Ag Water Quality Authority
  - Multi-agency committee
  - Developed the KY Ag Water Quality State Plan
  - Tasked with reviewing BMPs, implementing the Act
So, who needs a plan?

- Anyone farming or raising trees on 10+ acres
- Anyone applying for cost share
  - Kentucky Soil Erosion and Water Quality Cost Share Program (State cost share)
  - NRCS Environmental Quality Incentives Program (EQIP)
  - GOAP County Ag Investment Program (CAIP)
What if I don’t have a plan?
Planning Tool

www.ca.uky.edu/awqa
This website contains an on-line tool to be used by landowners to assess their operation and identify best management practices to be included in their individual plan. After identifying the best management practices, landowners/land users implement these practices on their land. Assistance to implement the plan can be obtained by contacting your local Conservation District Office or your local Cooperative Extension Service Office.
This website contains an on-line tool to be used by landowners to assess their operation and identify best management practices to be included in their individual plan. After identifying the best management practices, landowners/land users implement these practices on their land. Assistance to implement the plan can be obtained by contacting your local Conservation District Office or your local Cooperative Extension Service Office.
Please enter the following information:

Please be as accurate as possible. IMPORTANT. An email address is required to provide lost or forgotten password assistance.

<table>
<thead>
<tr>
<th>Field</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Name</td>
<td></td>
</tr>
<tr>
<td>County Location of Farm</td>
<td>Adair, Allen, Anderson</td>
</tr>
<tr>
<td>Owner Name</td>
<td></td>
</tr>
<tr>
<td>Operator Name</td>
<td></td>
</tr>
<tr>
<td>Owner Address</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Kentucky, Zip:</td>
</tr>
<tr>
<td>Owner Email</td>
<td></td>
</tr>
<tr>
<td>Username</td>
<td></td>
</tr>
<tr>
<td>Password</td>
<td></td>
</tr>
</tbody>
</table>

Check Questions for AWQPT (answers submitted to determine need for AWQP):

- Do you own 10 or more acres in Kentucky? (Y/N)
- Is your land being used for farming or timber production? (Y/N)
- Do you have a conservation plan, compliance plan, or a forest stewardship plan for your land? (Y/N)
- Do you harvest and/or raise trees for timber on your land? (Y/N)
- Do you use and/or store pesticides and/or fertilizers on your land? (Y/N)
- Do you live on your land or do other people live on your land? (Y/N)
- Do you grow agriculture or silviculture crops on your property? (Y/N)
- Do you have livestock and/or poultry on your property? (Y/N)
- Do you have streams, wetlands, or other waters on your land? (Y/N)

Create Account
# Agriculture Water Quality Planning Tool

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current plan information for Farm ID</td>
<td>1157</td>
</tr>
<tr>
<td>Date Last Updated</td>
<td>11/29/2011 1:22:28 PM</td>
</tr>
<tr>
<td>Farm Name</td>
<td>Practice123</td>
</tr>
<tr>
<td>County Location of Farm</td>
<td>Nicholas</td>
</tr>
<tr>
<td>Owner Name</td>
<td>Practice</td>
</tr>
<tr>
<td>Operator Name (if different from Owner)</td>
<td></td>
</tr>
<tr>
<td>Owner Address</td>
<td>123 Practice Lane</td>
</tr>
<tr>
<td>City</td>
<td>Carlisle</td>
</tr>
<tr>
<td>State</td>
<td>KY</td>
</tr>
<tr>
<td>Zip</td>
<td>40311</td>
</tr>
<tr>
<td>Owner Email</td>
<td><a href="mailto:amanda.gumbert@uky.edu">amanda.gumbert@uky.edu</a></td>
</tr>
</tbody>
</table>

**Check Questions for AWQPT**

- **Do you own 10 or more acres in Kentucky?**
  - [Y] Yes
  - [N] No
- **Is your land being used for farming or timber production?**
  - [Y] Yes
  - [N] No
- **Do you have a conservation plan, compliance plan, or a forest stewardship plan for your land?**
  - [Y] Yes
  - [N] No
- **Do you harvest and/or raise trees for timber on your land?**
  - [Y] Yes
  - [N] No
- **Do you use and/or store pesticides and/or fertilizers on your land?**
  - [Y] Yes
  - [N] No
- **Do you live on your land or do other people live on your land?**
  - [Y] Yes
  - [N] No
- **Do you grow agricultural or silvicultural crops on your property?**
  - [Y] Yes
  - [N] No
- **Do you have livestock and/or poultry on your land?**
  - [Y] Yes
  - [N] No
- **Do you have streams, wetlands, or other waters on your land?**
  - [Y] Yes
  - [N] No

**AWQPT - Crops**

1) **Do you ever produce row crops on hilly or steep sloping land (greater than 6% slope)?**
   - [Y] Yes
   - [N] No

**Implemented BMPs:**

- **BMP#1**
  - Conservation Cropping Sequence
- **BMP#2**
  - Conservation Cover
- **BMP#3**
  - Conservation Tillage / Crop Residue Use
### AWQPT - Farm Information Update Form

#### Streamside Management Zones
- **BMP#4**: Limiting Access to Streams by Fencing with Alternative Water Systems, Limited Access Points, or Stream Crossings
- **BMP#14**: Feeding and Heavy Use Area Management

#### AWQPT - Livestock

1) **Are there any streams, rivers, wetlands, or other water bodies in or adjacent any of your pastures?**
   - Implemented BMPs:
     - **BMP#1**: Planned Grazing System
     - **BMP#2**: Proper Grazing Use
     - **BMP#3**: Riparian Area Protection
     - **BMP#4**: Limiting Access to Streams by Fencing with Alternative Water Systems or Limited Access Points

2) **Do you overgraze your pastures?**
   - Implemented BMPs:
     - **BMP#1**: Planned Grazing System
     - **BMP#2**: Proper Grazing Use
     - **BMP#14**: Feeding and Heavy Use Area Management

3) **Do you have livestock on confined/paved feeding areas?**
   - Implemented BMPs:
     - **BMP#2**: Proper Grazing Use
     - **BMP#5**: Manure Management System
     - **BMP#6**: Manure Storage Pond
     - **BMP#7**: Manure Storage Structure (Holding Tank)
     - **BMP#8**: Manure Treatment Lagoon
     - **BMP#9**: Sediment or Solids Separation Basin
     - **BMP#10**: Manure Storage Structure (Stack Pad)
     - **BMP#13**: Filter Strip
     - **BMP#14**: Feeding and Heavy Use Area Management

4) **Do you allow livestock to have full access to streams, rivers, wetlands, or other water bodies?**
### Implemented BMPs:

- **BMF#3**: Mixing, Loading and Handling
- **BMF#9**: Excess Pesticide Disposal
- **BMF#10**: Pesticide and Fertilizer Container Disposal

### AWQP - Streams & Other Water Bodies

1. **Do you have to cross a stream with farm equipment or vehicles?**
   - [ ] Y
   - [ ] N

2. **Are there sand or gravel deposits in any stream on your farm that you have to or want to remove?**
   - [ ] Y
   - [ ] N

3. **Are any of your stream banks scouring, caving in, or sloughing off?**
   - [ ] Y
   - [ ] N

4. **Do any of your streams have log jams or sediment blockage that you want to remove?**
   - [ ] Y
   - [ ] N

5. **Do you plan any of the above activities on areas considered to be wetlands?**
   - [ ] Y
   - [ ] N

- **BMF#5**: Contact Corps of Engineers or NRCS

**Buttons:**
- Submit Changes
- Print Full Plan
- Print Short Plan
- Return w/o Change
Agriculture Water Quality Plan

Practiced 23
November 28, 2011

Farm ID: 1157
Farm Name: Practiced 23
Farm Owner: Practice
Address: 123 Practice Lane, Carlisle, KY 40331
Farm Operator: Practice

Why do you need an Agriculture Water Quality Plan?

Agricultural pollutants, such as sediment, nutrients, and pathogens, have a large impact on surface and groundwater resources. These pollutants originate from many different sources throughout the farm. Sediment can enter streams when grazing animals have access to streams or when vegetation is removed from pastures, cropland, or construction areas. Sediment accumulation in streams can dramatically decrease aquatic habitat and general water quality. Nutrients and fertilizers contain high levels of nitrogen and phosphorus, two common nutrients, and when they make their way into streams, eutrophication can occur. Pathogens found in manure or septics systems also decrease water quality when introduced to water resources by allowing livestock in streams, improperly disposing of manure, or poorly maintaining septic systems. All of these pollutants can be controlled by agricultural producers through the implementation of best management practices (BMPs).

It is our job, as farmers, to conduct our operations in a manner that avoids and eliminates agricultural pollution that contaminates local water resources. This Agriculture Water Quality Plan (AWQP) is designed to show what BMPs are currently being implemented and to recommend other practices that could apply to this operation and improve water quality. Many of the recommended BMPs found in this document represent the minimum measures needed to satisfy environmental regulations. Guidance on the selection and implementation of recommended BMPs can be found in documents and reference materials developed by the University of Kentucky College of Agriculture.

The goal of this AWQP is to protect ground and surface water, however, it encourages agriculture and silviculture practices that produce other benefits for landowners and producers, such as:

- Improved soil health, which can enhance profits and longevity for the agriculture operation;
- Increased nutrients, decreasing the amount of fertilizers that must be purchased;
- Improved drinking water quality;
- Enhanced flood control;
- Restoration and enhancement of wildlife habitat and;
- An overall improvement to the quality of life for those living and working on the farm.

An AWQP is required by law for all landowners and land users with ten or more acres under agricultural or woodland production in Kentucky. The goal of an AWQP is to protect surface and groundwater resources from pollution that results from agricultural and silvicultural activities. The plan consists of BMPs from six different areas:
## Comprehensive BMP List

<table>
<thead>
<tr>
<th>IMPLEMENTED</th>
<th>RECOMMENDED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CROPS</strong></td>
<td></td>
</tr>
<tr>
<td>BMP#2: Conservation Cover</td>
<td></td>
</tr>
<tr>
<td>BMP#3: Conservation Tillage / Crop Residue Use</td>
<td></td>
</tr>
<tr>
<td>BMP#5: Nutrient Management</td>
<td></td>
</tr>
<tr>
<td>BMP#6: Filter Strip</td>
<td></td>
</tr>
<tr>
<td>BMP#7: Grasses and Legumes in Rotation</td>
<td></td>
</tr>
<tr>
<td>BMP#8: Mulching</td>
<td></td>
</tr>
<tr>
<td>BMP#9: Pasture and Hay Land Management</td>
<td></td>
</tr>
<tr>
<td>BMP#10: Strip Cropping</td>
<td></td>
</tr>
<tr>
<td>BMP#11: Critical Area Planting and Treatment</td>
<td></td>
</tr>
<tr>
<td>BMP#12: Pest Management Including Cultural Control</td>
<td></td>
</tr>
<tr>
<td>BMP#13: Cover Crop</td>
<td></td>
</tr>
<tr>
<td>BMP#14: Nutrient Management</td>
<td></td>
</tr>
<tr>
<td>BMP#15: Grassed Waterways</td>
<td></td>
</tr>
<tr>
<td><strong>FARMSTEAD</strong></td>
<td></td>
</tr>
<tr>
<td>BMP#1: Solid Waste Procedures</td>
<td></td>
</tr>
<tr>
<td>BMP#2: Septic Systems and On-Site Disposal</td>
<td></td>
</tr>
<tr>
<td>BMP#3: On Farm Poultry Storage and Handling</td>
<td></td>
</tr>
<tr>
<td>BMP#4: Well Protection</td>
<td></td>
</tr>
<tr>
<td><strong>FORESTRY</strong></td>
<td></td>
</tr>
<tr>
<td>BMP#1: Construction of Access Roads and Skid Trails</td>
<td></td>
</tr>
<tr>
<td>BMP#2: Rejuvenation</td>
<td></td>
</tr>
<tr>
<td>BMP#3: Streamside Management Zones</td>
<td></td>
</tr>
<tr>
<td>BMP#4: Sinkholes</td>
<td></td>
</tr>
<tr>
<td>BMP#5: Logging Debris</td>
<td></td>
</tr>
<tr>
<td>BMP#6: Proper Handling of Tree Seedlings by Machine</td>
<td></td>
</tr>
<tr>
<td>BMP#7: Fertilization</td>
<td></td>
</tr>
<tr>
<td>BMP#8: Application of Pesticides</td>
<td></td>
</tr>
<tr>
<td>BMP#9: Site Preparation for Revegetation</td>
<td></td>
</tr>
<tr>
<td>BMP#10: Silviculture in Wetland Area</td>
<td></td>
</tr>
<tr>
<td><strong>LIVESTOCK</strong></td>
<td></td>
</tr>
<tr>
<td>BMP#2: Proper Grazing Use</td>
<td></td>
</tr>
<tr>
<td>BMP#1: Planned Grazing System</td>
<td></td>
</tr>
</tbody>
</table>
Ag Water Quality Planning Tool

University of Kentucky Cooperative Extension

Best Management Practices (BMPs)

CROPS
FARMSTEAD
FORESTRY
LIVESTOCK
PESTICIDE AND FERTILIZERS
STREAMS AND OTHER WATERS
Ag Water Quality Planning Tool
University of Kentucky Cooperative Extension

Best Management Practices (BMPs) July 11, 2011

CROPS
- FARMSTEAD
- FORESTRY
- LIVESTOCK
- PESTICIDE AND FERTILIZERS
- STREAMS AND OTHER WATERS

- BMP #1: Stream Crossing Protection

- BMP #2: Sand and Gravel Removal

- BMP #3: Streambank and Shoreline Protection

- BMP #4: Proper Stream Drainage Maintenance
**Ag Water Quality Planning Tool**

*University of Kentucky Cooperative Extension*

**Best Management Practices (BMPs) July 11, 2011**

**CROPS**
- FARMSTEAD
- FORESTRY
- LIVESTOCK
- PESTICIDE AND FERTILIZERS
- STREAMS AND OTHER WATERS

- **BMP #1: Stream Crossing Protection**
  - Bridge or low water crossing built for tractors or trucks to reduce effects on streams. Covers activities described by Corps of Engineers Nationwide Permit #14. To use this BMP in your water quality plan you should:
    - Construct the low water crossing in a way that does not block the flow of the stream.
    - Minimize soil erosion and removal of streamside plants.

- **BMP #2: Sand and Gravel Removal**

- **BMP #3: Streambank and Shoreline Protection**

- **BMP #4: Proper Stream Drainage Maintenance**
Best Management Practices (BMPs)

CROPS

FARMSTEAD

FORESTRY

LIVESTOCK

PESTICIDE AND FERTILIZERS

STREAMS AND OTHER WATERS
What is the process for developing and implementing an individual water quality plan?
First, landowners must assess their operations and determine if they need an agriculture water quality plan. Once the assessment is complete, the landowner must choose the appropriate BMPs for his/her operation.

Who is responsible for developing an Agriculture Water Quality Plan?
The landowner is responsible for preparing an agriculture water quality plan that best meets the needs of his/her particular farming operation. This plan belongs to the landowner and must be available in the event that water pollution occurs and is identified and traced to his/her agricultural operation. A self-certification form, can be filed with the local conservation district.

What is an Agriculture Water Quality Plan?
The Kentucky Agriculture Water Quality Plan consists of best management practices (BMPs) from six areas: silviculture (forestry); pesticides and fertilizers; farmstead; crops; livestock; and streams and other waters. The statewide plan serves as a guide to individual landowners/land users as they develop water quality plans for their individual operations.

How does the act define agriculture and silviculture operations?
According to the Kentucky Agriculture Water Quality Act, an "agriculture operation" is defined as any farm operation on a tract of land, including all income-producing improvements and farm dwellings, together with other farm buildings and structures incident to the operation and maintenance of the farm, situated on 10 contiguous acres or more of land used for agriculture or silviculture or devoted to meeting the requirements and qualifications for payments to agriculture programs under an agreement with the state or federal government.

Agriculture operations include, but are not limited to, production of livestock, livestock products, poultry, poultry products, milk, and milk products, or for the growing of crops such as but not limited to tobacco, corn, soybeans, small grains, fruits, and vegetables.

An interactive online tool is available at www.ca.uky.edu/awqa to help landowners decide which best management practices (BMPs) are needed for their farm.

For more information regarding the workbook or online computer version contact your local Conservation District office, county Extension office, or Amanda Gumbert at 859-257-6094 or amanda.gumbert@uky.edu.
Educational Tools - Facebook
What’s Next?

- Finishing touches on web tool
- Smartphone apps?

Bottom line?
Protect Water Quality
Questions?