

Kentucky Rural Water Association

Source Water Protection Program

Priority Areas Planned for 2015-2016:

Hardin County Water District #2. (2nd Dist.)

Justification: Non-point source impact by sediment, pesticides and nutrients from agriculture activity, urban land use and development, highway corridor, and logging. Source Water Protection Plan currently under development for their three water sources. Hardin County Water District #2 in late 2014 took over ownership and operation of the Elizabethtown Water Utility. This merging of services will necessitate the combination of the three sources (White Mills Spring, City Springs, and Freeman Lake) into one Source Water Protection Plan. In early 2015, with the assistance of Kentucky Rural Water Association and the Kentucky Division of Water, Hardin County Water District #1 and Hardin County Water District #2 are planning to undertake a joint Public Meeting to inform and educate its county and city leaders and citizens on the need and value of source water protection.

Berea (6th Dist)

Justification: Berea is one of three (Middlesboro-Fern Lake and Pineville-Cannon Creek Lake) water utilities in Kentucky that has essentially 100% of its watershed forested. Active interest in source water protection and land use planning by Berea College and Berea Municipal Utility. The four watersheds in the Berea source water protection areas has undergone selective logging over the past 100 years since these are managed working forests. Water quality has not changed at this time but close continual monitoring will continue. This site is developing as a case study site in Forest Management Practices with respect to water quality over time.

City of Campbellsville. (1th Dist)

Justification: Non-point source impact by sediment, pesticides and nutrients from agriculture activity, highway corridor and logging. Campbellsville is developing a citizen outreach committee to address the development and implementation of a Stormwater Permit (MS4). Campbellsville currently utilizes raw water from the Green River Lake but also utilizes the city reservoir as a back up supply. The Source Water Protection Plan currently under development will address both sources.

Hawesville (2nd Dist.)

Justification: Land use activities can impact groundwater resources. Historically, primary contaminants of concern are nutrients, pesticides and industrial solvents. Community water supplies develop five year revisions to their Wellhead Protection Plan as required by Kentucky Division of Water regulations. Groundwater makes up 100% of the drinking water used in this city. Hawesville Utilities have undergone major personnel changes in recent months. The city has requested the assistance of KRWA in planning and developing the Five Year revision; and in general management of their groundwater water resources.

Morehead State University (5th Dist)

Justification: Non-point source impact by sediment, pesticides and nutrients from agriculture activity, highway corridor, acid mine drainage and logging. The Source Water Protection Plan is currently under development for their two water sources (Triplets Creek and Evans Branch Reservoir). The Groundwater Protection Plan was completed in 2014.

Red River: Beech Fork Water Commission, City of Campton, Wolfe County Sanitation District (6th Dist)

Justification: Non-point source impact from inadequate residential onsite wastewater treatment, logging and current agricultural practices. The Red River, below this protection area, is one of three priority watersheds in the Kentucky River Basin under the Watershed Management Framework priority watershed; and work here will be enhanced by related activities. Continuation of SWAPP by City of Campton and Wolfe County, public education efforts, student groups and field trips to Red River sites with water quality and source water protection main topics. New water treatment plant recently completed and operating quite well. Groundwater resources have been added to augment existing reservoir for total source water supply needs. A Wellhead Protection Plan was finalized in 2014 that meets the KY Division of Water regulatory requirement to protect this valuable groundwater resource. Powell County recently developed a county wastewater commission that is operating a new wastewater treatment plant that replaced two older facilities in Stanton and Clay City. KRWA is a team member of a current ongoing 319 project that is developing a Restoration and Watershed Plan for parts of the upper Red River Watershed mostly located in the Red River Gorge located in the Daniel Boone National Forest. The recently formed Wolfe County Sanitation District is in the very early developmental process. Many board meeting and public meeting will be convened over the next year as the location and size of the new sanitation district is determined. Groundwater Protection Plan currently under development for the Campton Water Treatment Plant.

City of Olive Hill. (5th Dist)

Justification: High sediment loads due to current timber practices, roads and agricultural practices. Active interest in source water protection and land use planning by City of Olive Hill for their City Reservoir. Source Water Protection Plan currently under development.

White Plains (1th Dist)

Justification: Land use activities can impact groundwater resources. Historically, primary contaminants of concern are nutrients, pesticides and oil & gas activity. Community water supplies develop five year revisions to their Wellhead Protection Plan as required by Kentucky Division of Water regulations. Groundwater makes up 100% of the drinking water used in this city. Utility Manager has requested KRWA to assist in their development of a new Wellhead Protection Plan for their new water well and update their existing well field in 2015.

Evarts Municipal Water Works. (5th Dist)

Justification: High sediment loads due to current timber practices, coal mining and recent gas drilling. Active interest in source water protection, land use planning and new source development by City of Evarts. Ongoing issue (volume decrease in dry summers) with main water source (abandoned underground coal mine). Evaluating the possibility of drilling two new water well.

Pineville. (5th Dist)

Justification: High sediment loads due to current timber practices and coal mining. Active interest in source water protection and land use planning by City of Pineville and their Cannon Creek Lake. Cannon Creek Watershed has undergone logging in late 2014, water quality has not changed at this time but close continual monitoring will continue. This site is developing as a case study site in Forest Management Practices with respect to water quality over time.

Little Sandy River: City of Greenup. (4th Dist)

Justification: Non-point source impact by sediment, pesticides and nutrients from agriculture activity, acid mine drainage and logging. Source Water Protection Plan currently under development.

Little Sandy River: City of Grayson. (5th Dist)

Justification: Non-point source impact by sediment, pesticides and nutrients from agriculture activity, highway corridor, acid mine drainage and logging. Source Water Protection Plan currently under development.

Upper Cumberland River: Harlan County. (5th Dist)

Justification: Onsite wastewater issues, acid mine drainage. This area is in a priority watershed for the Upper Cumberland River Basin, under the Watershed Management Framework. Several community water supplies are currently in high danger of being lost due to underground coal mining. Five year Wellhead Protection Plan update has been completed in early 2015 for the City of Benham, and its water supply which discharges from an abandoned coal mine. Additional work this year will be undertaken with the other two cities in the Tri City Utility Commission (Lynch, Cumberland).

Francis Water Company. (5th Dist)

Justification: High sediment loads due to current timber practices, coal mining and recent gas drilling. Active interest in source water protection, Manager requested help with five year revision to their Wellhead Protection Plan. Francis Water Company is one of a handful of private water companies left in Kentucky and one of only a few water systems utilizing an abandoned coal mine as their water source.

City of Madisonville. (1th Dist)

Justification: High sediment loads and algae growth due to current agricultural practices. Active interest in source water protection and land use planning by City of Madisonville for Lake Pewee, their City Reservoir. Source Water Protection Plan currently under development. Paddlefish have shown to indicate levels of algae are stabilizing therefor amounts of water herbicides have been greatly reduced, ongoing investigation continues.

Areas Previously Worked and still Active in Source Water Protection:**Mason County Groundwater Protection Plan. (4th Dist)**

Justification: Land use activities can impact groundwater resources. Main contaminants of concern are nutrients, pesticides and bacteria. Two community water supplies will incorporate this plan, which will include five year revision and/or new Wellhead Protection Plan as required by Kentucky Division of Water regulations. Groundwater makes up a large percentage of the drinking water used in this county. County Groundwater Plans bring together water systems with county, state and federal officials, professionals and interested stakeholders to provide an opportunity to maximize protection and sustainability efforts. Ongoing activities expected into 2015 and beyond. Wellhead Protection Plan finalized for Western Mason County Water District. Planning is underway with Western Mason Water District and the City of Dover to address the rising nitrate levels in their new wellfield. Possible options are to apply for the New Source Water Protection Program funding under the Kentucky Division of Water to investigate waste water collection options for Dover which is entirely on septic systems. The final draft is under development for Western Lewis-Rectorville Water District's five year renewal of their Wellhead Protection Plan. Western Lewis-Rectorville Water District is applying for the new Source Water Protection Funding (for plugging several abandoned water wells in wellfield) under the Kentucky Division of Water.

Lake Linville, City of Mt Vernon. (5th Dist)

Justification: Non-point source impact by sediment and nutrients from agriculture activity, stream bank and lake shore erosion, inadequate residential onsite wastewater treatment and recent land development along the lake shore. Strong stakeholder group is currently very active. The new Mayor requested KRWA to develop a written summary of activities that occurred at Lake Linville in respect to source water protection over the last 12 years since source water protection activities began. The Mayor used this document to inform his legislative representatives on the critical nature and his concern for the water supply. The Paddlefish study, a joint venture between Kentucky State University and an independent contractor, is close to its seven year completion. Recent fish survey shows Paddlefish doing quite well, harvest planned for 20016.

Carr Creek Lake, Knott Co. Water and Sewer District. (5th Dist)

Justification: Non-point source impact from inadequate residential onsite wastewater treatment, logging, coal mining and oil and gas drilling. Recently the Knott County Water and Sewer District began expanding the capacity of their new water treatment plant on Carr Creek Lake (USCOE). An active stakeholder group is located in the county. Recent issues with other source water supplies in this region make this source a regional source water supply provider.

Upper Licking River Watershed. Cities of Salyersville and West Liberty. (5th Dist)

Justification: Bacteria loading and high sediment loads in drainage. Cities searching for additional water sources due to drought conditions over last few years. This is one of three priorities for the Licking River Basin Watershed Management Framework. Ongoing Source Water Assistance and Protection (SWAP) program activities.

McCreary Co. Water District, Big South Fork of the Cumberland River. (5th Dist)

Justification: Non-point source impact from inadequate residential onsite wastewater treatment, logging, coal mining, oil and gas drilling, and landfills (potential impact from a proposed new landfill across the state border with Tennessee). There is a timely opportunity to make progress at this location, because local leadership (McCreary County WD) is actively working on a federal and state funded 319 project with a very active stakeholder group.

City of Marion, City Reservoir. (1st Dist)

Justification: Non-point source impact by sediment, pesticides (Atrazine) and nutrients from agriculture activity. Strong stakeholder group represented by government and agriculture interest groups. Due to prolonged dry periods, the Cities source water supply is no longer adequate to supply its needs. City currently evaluating possible new source water supplies which includes groundwater from old fluorspar mines.

City of Liberty. City Reservoir. (1st Dist)

Justification: Non-point source impact by sediment, pesticides and nutrients from agriculture activity and recent land development along the lake shore. Abandoned landfill in watershed. City recently purchased land adjacent to existing reservoir and is evaluating the development of an additional reservoir. Increase storage volume is needed to protect source in times of extended drought and due to increase water demand county wide.

Wood Creek Lake, Laurel County. (5th Dist)

Justification: Non-point source impact by sediment, pesticides and nutrients from agriculture and forestry activity and recent land development along the lake shore. Inadequate residential onsite wastewater treatment. Wood Creek Lake is in year five (5) of a seven (7) year project to raise Paddlefish in water supply reservoirs in cooperation with Kentucky State University. The Project is evaluating the potential to raise Paddlefish commercially for meat and roe and provide benefits to the water quality by managing the algae production in the reservoir. Watershed partly protected by the recent completion of a Wastewater Treatment Plant in which its collection system covers much of the Wood Creek Watershed area. Wood Creek WD has an ongoing project to buy parcels of land in the watershed for protection purposes.