

319 GRANT APPLICATION INSTRUCTIONS

Section 319(h) Nonpoint Source Implementation Grant

Kentucky Energy and Environment Cabinet
Department for Environmental Protection
Division of Water, Nonpoint Source and Basin Team Section
300 Sower Blvd, Third Floor
Frankfort, Kentucky 40601
(502) 564-3410

Revised, October 2025

Table of Contents

Disclosure	4
NPS Pollution Management Program Contacts	5
Watershed Management Branch Contacts	5
Grants Management Section Contacts	6
Grant Schedule Table	7
Completing the 319 Grant Application.....	8
Application Sections	10
Section 1- Project Title	10
Section 2- Lead Agency and Primary Contact Information	10
Section 3- Project Manager	10
Section 4- Project Start Date	10
Section 5- Project End Date	11
Section 6- Fiscal Summary.....	11
Section 7- Type of Project	12
Section 8- Geographic Coverage	14
Section 9- River Basin.....	14
Section 10- Location	15
Section 11- Project Area	15
Section 12- NPS Pollutant(s) or issues to be addressed.....	16
Section 13- NPS Pollution Source(s) to be addressed.....	16
Section 14- Sampling & Data Collection	16
Section 15- Grant Management Experience	16
Section 16- Project Summary	17
Section 17- Introduction/Background	17
Section 18- NPS Pollution Control Project Goal, Objectives, and Activities	17
Section 19- BMPS to be Installed.....	19
Section 20- Describe the NPS Pollution Control Plan of Work.....	19
Section 21- Environmental Data Collection	21

Section 22- Public Involvement	21
Section 23- Reference/Literature Cited.....	22
Section 24- Budget Summary.....	22
Section 25- Detailed Budget.....	23
Section 26- Budget Narrative	24
Section 27- Milestone Schedule	26
Section 28- Project Partners.....	28
Section 29- Grant Application Conditions.....	28
Section 30- Application Signature	33
Meeting Quality Assurance Requirements	34
QAPPs.....	34
SOPs	35
Quality Evaluation Reports.....	35
Quality Assurance Guidance and Templates.....	36
References.....	38

Disclosure

The Kentucky Energy and Environment Cabinet does not discriminate on the basis of race, color, national origin, sex, sexual orientation, age, religion, or disability and provides, on request, reasonable accommodation including auxiliary aids and services necessary to afford an individual with a disability an equal opportunity to participate in all services, programs and activities. To request materials in an alternative format, join the Kentucky Outreach and Information Network (KOIN) by contacting the Department for Public Health Preparedness Branch at (502) 564-7243. Hearing- and speech-impaired persons can contact the agency by using the Kentucky Relay Service, a toll-free telecommunication device for the deaf (TDD). For voice to TDD, call 1/800-648-6057. For TDD to voice, call 1/800-648-6056.

Funding for this document was provided, in part, by a grant from the U.S. Environmental Protection Agency to the Kentucky Division of Water as authorized by the Clean Water Act Amendments of 1987, Section 319(h) Nonpoint Source Implementation Grant.

NPS Pollution Management Program Contacts

Kentucky Division of Water

300 Sower Blvd, 3rd Floor

Frankfort, KY 40601

Phone: (502) 564-3410 Fax: (502) 564-9636

Watershed Management Branch Contacts

Michaela Lambert - NPS and Basin Team Acting Section Supervisor

Phone: 502-782-5282

Email: michaela.lambert@ky.gov

Caroline Chan - Quality Assurance Officer

Phone: 502-782-6916

Email: caroline.chan@ky.gov

Amy Rhorer - Technical Advisor

Phone: 502-782-0146

Email: amy.rhorer@ky.gov

Haileigh Arnold - Technical Advisor

Phone: 502-782-4201

Email: haileigh.arnold@ky.gov

Pending - Four Rivers Basin Coordinator

Phone: Pending

Email: Pending

Nathan Alexander - Big Sandy Basin Coordinator

Phone: 502-782-54203

Email: nathan.alexander@ky.gov

Alice Mandt - Upper Cumberland Basin Coordinator

Phone: 502-782-7169

Email: mandt@ky.gov

Andrea Drayer - Kentucky River Basin Coordinator

Phone: 859-257-4974

Email: andrea.drayer@uky.edu

Colin Duncan - Green River Basin Coordinator

Phone: 502-782-3594

Email: colin.duncan@ky.gov

Amber Hawkins - Salt River Basin Coordinator

Phone: 502-782-6266

Email: amber.hawkins@ky.gov

Grants Management Section Contacts

Michele Howard - Grants Management Section Supervisor

Phone: 502-782-3692

Email: michele.howard@ky.gov

Mike Reed - Grant Administrator

Phone: 502-782-7046

Email: mike.reed@ky.gov

Grant Schedule Table

Date	Activity	Note
November 15* (or the calendar business day before a weekend or holiday)	Project Letter of Intent Form deadline	Project Letter of Intent may be submitted at any time. To receive assistance and feedback, Letter of Intent must be submitted before deadline.
February 15* (or the calendar business day before a weekend or holiday)	Application submission deadline	Project application must be emailed, postmarked or received (if hand delivered) by deadline
April	Expected Notice of Award to recipients	Dates may vary
September	Expected receipt of grant funds from EPA	Dates may vary
October	Anticipated contract start date	Dates may vary

Applicants can submit an application as- an electronic copy saved as a Word or PDF file sent via email to mike.reed@ky.gov.

Completing the 319 Grant Application

Please read the entire Grant Guidance Document before beginning the process of filling out the Project Application.

The project application provides all the details, products and outcomes of the project. Two important reasons for submitting a complete and correct application are:

- A. The application will be used in the ranking process to determine which projects receive funding.
- B. The application will be used as the basis for developing the legal contract.

Because the application will be the basis of the legal contract, it should be written not as a proposal but as a project that will be carried out. For example, use “will” instead of “would,” and do not use “proposal” or “propose.”

If you submit a Letter of Intent, NPS program staff will contact you to discuss project ideas, clear up any doubts about eligibility or clarify any of the information in the guidance document as need be. Although a Letter of Intent is not a requirement to complete a 319(h) Grant Application, the NPS and Basin Team Section highly recommends each project completes the Letter of Intent form.

A separate application must be submitted for each project for which you are seeking funding.

Because “combination projects” cannot be evaluated and ranked effectively, they will not be accepted. Please contact the NPS Section if you are unsure whether you are developing a “combination project” or not.

All information presented as “fact” must be followed by a literature citation. Implementation projects should reference the watershed plan, including BMP lists and prioritization.

The application is a Word Document. Maintain the format of the application and insert blank pages as needed. The following instructions are numbered to correspond with the numbered items on the project application form. Please use Arial 12-point font when

filling out the application. You are restricted to the space provided on the application unless specified otherwise in these instructions.

You are **REQUIRED** to attach a [319 Grant Report](#) to your application. Instructions for doing so are on the website. The report will provide information that you will need to fill out your application.

Application Sections

Section 1- Project Title

The project title should uniquely identify and describe the project. Choose a title that can be used consistently for the duration of the project. We will use the same title when publicizing the project, so choose a title that project area residents would be able to recognize if the news media were to provide coverage. The title should be no longer than one typewritten line in length. Also, avoid the use of overly technical language or acronyms that would be difficult for the general public to understand. If your project is a continuation of a previous one, considering using "Part X."

Section 2- Lead Agency and Primary Contact Information

Identify the "lead agency," which is the single entity (institution, organization, etc.) that will be responsible for managing the project. The lead agency will be responsible for ensuring that all project activities are carried out and for entering into a legal contract. Also identify the "primary contact" that is the head of the lead agency and will be included in major project communications. Provide the address, telephone number, and email address of the lead agency.

Section 3- Project Manager

Identify the project manager who will handle all routine correspondence and communications with NPS Program staff. The project manager will generally be responsible for day-to-day project activities and will act as the single-point-of-contact to the NPS Program staff. Provide the address, telephone number, and email address of the project manager.

Section 4- Project Start Date

Estimate a project start date. The date listed here is only a tentative date. The actual start date is determined when the grant is awarded from EPA, and a legal contract has been executed between the lead agency and the Energy and Environment Cabinet. It is the Division's goal to start each project for the FFY grant cycle by October 1.

Section 5- Project End Date

Estimate a tentative project end date. The actual end date is determined when the grant is awarded from EPA, and a legal contract has been executed between the lead agency and the Energy and Environment Cabinet. Project duration should not exceed four years depending upon the project type. For further details, contact the Nonpoint Source Section. DOW recommends that your project be completed in the shortest reasonable time frame possible.

Section 6- Fiscal Summary

Provide a summary of the Section 319(h) funds and non-federal match needed to complete the project. NPS funds are distributed as a 60/40 split. The federal reimbursement for a NPS pollution control project is 60% of the total project cost. Therefore, each project must provide 40% of the total project cost for non-federal matching funds. When completing the budget amounts use only whole numbers. Section 319(h) funds and non-federal match funds are calculated as a percentage of the total project budget. If your project has issues meeting the 40% match requirement, contact the Nonpoint Source Section for assistance.

For assistance with this section, please see: Past Funded Projects, Section 319(h) Application Resources, and Section 319(h) Grant Documents tabs located on the [Section 319\(h\) Grant Program Funding](#), including the *319 Budget Worksheet with Tabs* under the Resources Tab.

These can be calculated by using one of the following three formulas:

Use when the total project dollar amount needed is known – If you know the total dollar amount (federal + non-federal match) that will be needed to complete the project, then multiply that amount by 40% to calculate how much of the total project amount will need to be non-federal match. For example: \$250,000 (the total dollar amount) x .40 (the required non-federal match percent) = \$100,000 (the amount of the total dollars that must be non-federal match). The difference between these two numbers is the amount of 319(h) federal funds that can be requested.

Use when 319(h) federal dollar amount being requested is known – If you know the 319(h) federal fund amount that you are wanting to request, then divide that amount by 60% to calculate what the total dollar amount (federal + non-federal match) will be. For example: \$150,000 (the federal dollar amount being requested) ÷ .60 = \$250,000 (the total dollar amount for the project). The difference between these two numbers is the

amount of non- federal match dollars that would be required.

Use when non-federal match dollar amount being contributed is known – If you know the non-federal match dollar amount that you can contribute, then divide that amount by 40% to calculate what the total dollar amount (federal + non-federal match) will be. For example: \$100,000 (the non-federal dollar amount being contributed) ÷ .40 = \$250,000 (the total dollar amount for the project). The difference between these two numbers is the amount of 319(h) federal funds that can be requested.

Section 7- Type of Project

Select the type of project you are applying for. If it is not one of the four listed examples, then select “other” and describe the type of project it will be.

Watershed Plans

A Watershed Plan (WSP) is a comprehensive strategy that provides assessment and management information for a geographically defined watershed, including the analyses, actions, participants and resources for developing and implementing the plan.

WSPs must fulfill the requirements identified in the [Watershed Planning Guidebook for Kentucky Communities](#). These requirements include but are not limited to the nine elements identified in Chapter 2, Section 2.6 of EPA’s [Handbook for Developing Watershed Plans to Restore and Protect our Waters \(USEPA 2008\)](#).

All Watershed-based plan development projects require a Final Data Package as a project deliverable. The Final Data Package shall include the following, (1) all documentation such as field sheets, calibration records, and laboratory analysis reports, (2) a data verification report, (3) a comprehensive compilation of all data results in an approved format that will facilitate DOW submitting to WQX, (4) the raw data and calculations for load targets and reductions. The Final Data Package should support the components of the watershed plan identified in Chapters 2-4 of the *Watershed Planning Guidebook for Kentucky Communities* and the required “Element A” identified in Appendix C of the *Nonpoint Source Program and Grant Guidelines for States and Territories* (US EPA, 2014). Additional information may be requested by KDOW in order to meet assessment needs and reporting.

WSP applications are not required to include an implementation component; however, implementation is the goal of creating a plan and must be addressed in the final approved WSP.

To learn how Watershed Plan project applications are evaluated, see the [319 Rank Criteria- WSP Development Programmatic under the Resources Tab](#).

Watershed Plan Implementation

Watershed Plan (WSP) Implementation projects must implement the nonpoint pollution control measures identified in a DOW/NPS Section accepted WSP (see WSP criteria above).

In addition, projects addressing in-stream reductions of nonpoint source pollutants are required to report annually on estimated load reductions resulting from implementation of the project. Models are available for use in completing this requirement. For more information, [contact NPS program staff](#). The Kentucky Division of Water (DOW) will assist the applicant in determining if this requirement applies to your project and how to meet the reporting requirement.

To learn how Watershed Plan Implementation project applications are evaluated, see the [319 Rank Criteria- WSP Implementation under the Resources Tab](#).

BMP Technology Demonstration

Best Management Practices (BMPs) installed as technology demonstrations must educate citizens, officials, agency representatives, and others about the NPS pollution problem and the BMP technology. Site-specific demonstrations are usually focused innovative BMPs and holistic BMP efforts (whole farm planning). The demonstration (or technology transfer) component can be achieved through field days, tours, brochures, newspaper articles, television, radio, etc.

In addition, projects involving BMP implementation are required to report annually on estimated load reductions resulting from implementation of the BMP(s). Models are available for use in completing this requirement. For more information, [contact NPS program staff](#). DOW will assist the applicant in determining if this requirement applies to your project and how to meet the reporting requirement.

Education/Outreach Technology Transfer

These projects seek to modify behavior by raising awareness, developing programs that utilize social marketing as a change agent and providing technical training on NPS issues. Education projects can be directed toward adult or K-12 audiences or as outreach to non-formal audiences. Technology transfer projects deliver technical information (materials, workshops, training, etc.) to audiences that will implement appropriate BMPs. Projects should contain elements that will direct behavior change.

To learn how Education/Outreach Technology Transfer project applications are evaluated, see the [319 Rank Criteria- Statewide Education Programmatic under the](#)

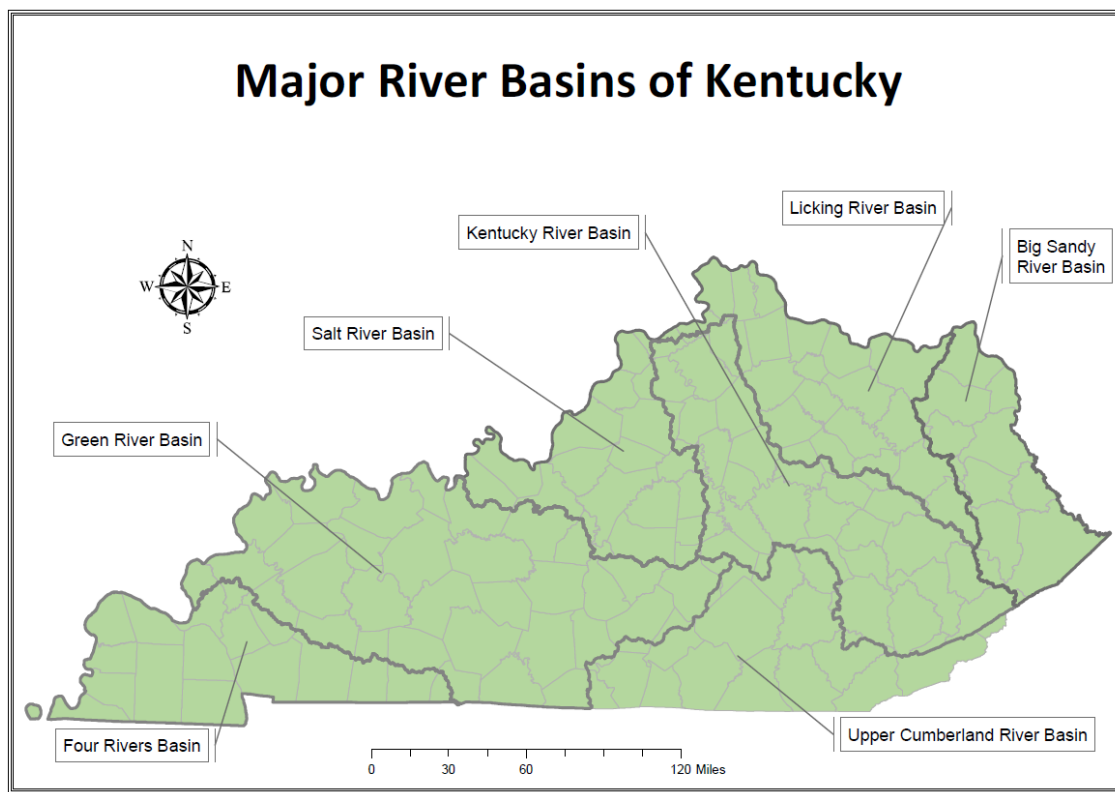
[Resources Tab.](#)

Section 8- Geographic Coverage

Select the single geographic coverage that best fits the project area. Select “Watershed” if the project area is defined by a discreet watershed boundary. Select “Statewide” if the project is to benefit the entire state (e.g., six workshops held throughout the state and drawing from a statewide audience is a statewide geographic coverage). Select “Regional” if the project is composed of areas with a common condition, such as a karst area, that expands a general region of Kentucky. List the regions designated name.

Section 9- River Basin

Select the river basins that will be affected by the project if the project is not statewide or regional.



Section 10- Location

If your project includes site-specific components, such as BMPs or monitoring sites, a map must be included. The map must delineate the watershed and identify the locations of BMPs and monitoring sites or the specific area in which they will be placed. If the sites have already been selected, mark their exact locations on the map. If the precise sites are not yet known, encircle the smallest possible area within which they may be placed.

You may submit a GIS- generated map or clearly mark the location(s) on a clean photocopy of a portion of a USGS 7.5- minute topographic quadrangle map. If a photocopy is used, display the name of the quadrangle clearly on the map itself, either front or back. Enclose the map as a stand-alone document. Do not refer to it in the text of your plan of work (Section 19), as this map is for internal use only and will not be transferred to EPA.

Designate which watershed(s), Hydrologic Unit Code(s) (HUC)[s], and County(ies), will be affected by the project. A HUC is a 6- to 14-digit code assigned to a particular drainage area. For statewide projects, it is not necessary to list HUCs or include topos. Regional projects should include at least one 12-digit HUC. HUCs may be obtained from your local conservation district office, Kentucky Geological Survey, U. S. Geological Survey, DOW, U.S. Army Corps of Engineers.

Resources for location lookup:

- [UK State Hydrology Series](#) (requires GIS software)
- [Kentucky Geography Network](#)
- [319 Reporter](#)
- [Model My Watershed](#)

Section 11- Project Area

For all projects, use the “yes” or “no” check boxes to respond to the listed questions on the characteristics of the project area. If the listed question pertains to the project area, select “yes”. If the question does not pertain to the project area, select “no”. If you are unsure about an answer, check the Grant Reporter Tool report, or reach out to your technical advisor.

Section 12- NPS Pollutant(s) or issues to be addressed

Check all of the NPS pollutants or issues that will be addressed by the project. Write in any other pollutants or issues the project will be addressing that are not included on the checklist.

Section 13- NPS Pollution Source(s) to be addressed

Select up to five NPS sources that will be addressed by the project. Include the percentage of each category that the project addresses (for example, 50% agriculture/50% forestry). The total percentage must equal 100%. See Section 1.3 of the *Grant Guidance Document* for a list of nonpoint pollution sources.

Section 14- Sampling & Data Collection

The Sampling and Data Collection section for an implementation project identifies if an implementation project has a valid EPA approved watershed plan, the year approved, and the name of the plan.

The Sampling and Data Collection section for a watershed plan project, identifies whether or not the watershed has existing sampling data, if there are no DOW sampling needs, is requesting KDOW sampling or an erosion study, or if the project has previously requested sampling data during the Letter of Intent process or other communications with DOW staff.

Previous conversations on sampling may not indicate full approval of contracted DOW sampling services at the LOI or application stage. If DOW is requested, the project's technical advisor will work with project leaders and the DOW water quality branch to determine eligibility and availability for DOW sampling during the application process. Due to the limited availability of DOW sampling, it is recommended to supply a budget plan for DOW sampling and an alternative budget for using another subcontractor to complete water sampling if DOW is unavailable within the application.

Section 15- Grant Management Experience

The Grant Management Experiences section identifies if the applicant project leaders and managers have had previous grant management experiences. If the project leaders

have previously worked with using state or federal grants or grants from an organization, select the “yes” option. List up to 5 grants that the leaders have experiences with, and the amount of the grant funds awarded.

Section 16- Project Summary

The Project Summary section is a brief description (abstract) of the project. The project summary is to be prepared in narrative format, not as a list. Summarize the following: problem, goals, objectives, and activities/deliverables using a couple sentences for each. Since the summary will be included in a national database maintained by the EPA, it needs to be **clear and concise**.

Use no more than **3 paragraphs** to complete this section.

Section 17- Introduction/Background

The Introduction/Background explains and justifies why the project is important in controlling NPS pollution. This is the place you describe the need for your project, **not** the activities or how to solve the problem.

This section provides background information for the project. Identify the problem, the source, the extent and include a summary of data that documents any impairment or need for protection. The Introduction/Background is the place to “sell” the importance of the project to the reviewers.

Use no more than **one page** to complete this section.

Section 18- NPS Pollution Control Project Goal, Objectives, and Activities

Identify the overall goal of the project and list the project objectives. The objectives describe what the project will accomplish by conducting an activity or by developing a product. For example, the goal of eliminating straight pipes might have an objective of raising awareness of straight pipe impacts on water quality. This objective might be achieved by activities such as installing two innovative wastewater treatment

systems, conducting four field days and developing one program to educate the participants on how water quality is affected by straight pipes.

If the project involves developing a Watershed Plan the activities that address the requirements outlined in the [Watershed Planning Guidebook for Kentucky Communities](#) should be identified in this section.

All project activities and deliverables must be listed and quantified in this section. Use an outline format to describe each activity/deliverable that will be achieved for each objective under the Project Goal. This Section may be 1-3 pages in length.

Example of required formatting:

Goal: (Project Goal #1)

Objective: (Project Objective)

Activities/Deliverables:

1. (Project Activity/Deliverable #1)

2. (Project Activity/Deliverable #2)

Each objective listed should have at least one “activity/deliverable”: a quantifiable item or tangible product to measure the success of the activity designed to accomplish the objective. The most appropriate choice for project success indicators depends upon the type of project planned.

For NPS education activities, an appropriate deliverable might be pre- and post-activity participant surveys to determine changes in attitudes, knowledge of BMPs, and awareness of the NPS problems and the likelihood of adoption of the BMP.

The following are some possible deliverables for NPS pollution control projects:

- Planning Materials: Education and Outreach Plan, Best Management Practice Implementation Plan, Designs
- Number of site-specific plans implemented for erosion and sediment control, nutrient management, pest management, etc.
- Completion of DOW approved watershed plan chapters
- Number of field days and attendees at field days, accompanied by a pre- and post-test designed to measure the changes in attitudes and the likelihood of

- adoption of the BMP.
- Completion of media productions such as flyers, newspaper articles, PSAs, videos etc. (identify the topic, number distributed, intended outcome and to whom).

Use no more than **three pages** to complete this section.

Section 19- BMPS to be Installed

In this table list the Best Management Practices your project plans on implementing, if applicable and cross-references the Watershed Plan you are implementing. The Type of BMP has a drop-down list with general categories of BMPS, including Agriculture (NRCS practices), Onsite Wastewater (Septic, Sanitary Sewer Lines, HAP programs), Riparian Restoration (tree plantings, live stakes). Stormwater (Basins, Basin Retrofits, Green Infrastructure, Rain Barrels, etc.), and Stream Restoration. Practice names should be described the exact practice to be implemented. The Target Area for your project should ideally match or be within the target area in your watershed plan. In the last column, provide the page number that this BMP is recommended in your plan.

Section 20- Describe the NPS Pollution Control Plan of Work

The Plan of Work describes, in narrative format, how specific activities will be conducted. Explain how all project activities and deliverables will be accomplished.

The Plan of Work should enable the reader to have an understanding of the type of project that will be implemented and what will be accomplished by the project. Discuss all pertinent activities that will be a part of the project, including education/outreach, behavior change, watershed planning, technical assistance, training and BMP implementation. Include a narrative discussion of how the project activities and/or tangible products will be produced by the project.

As you prepare the project Plan of Work, understand and be familiar with the “Criteria for A Successful Nonpoint Source Project” on which the project will be evaluated and with grant application conditions. If the project includes educational and technology transfer activities, discuss in detail the types of materials to be produced. Identify the target audience(s), message objective, and the most effective

tools. Please consider local newspapers, radio, or television as an additional tool to get your message out. Ensure that the products identified are the best tools to meet the objective and that existing NPS materials are used (or modified) whenever possible. Contact NPS program staff for additional information on how to access existing materials.

Provide specifics regarding BMP demonstrations (presentations, field days, etc.). Describe how the demonstrations will be conducted. The demonstrations must transfer information about the BMPs (cost, pollution control effectiveness, installation requirements, maintenance requirements, other funding sources, etc.) to others. The goal is to persuade people to implement BMPs on their own (or with other funding sources). Identify the target audience and tailor the demonstrations to the audience in order to maximize the number of individuals affected by the demonstrations.

To ensure that the BMP demonstrations are as effective as possible, describe the advertising or invitation process (describe who will be invited and how the demonstrations will be advertised). Include a means of giving the NPS Program staff advance notice of the scheduling of any workshops, demonstrations, field days, etc., in order for us to help provide the opportunity for technology transfer.

If project activities include stream restoration, stream enhancement, and/or bank stabilization, your plan of work must include an assessment of the fluvial geomorphic instability. This should include a description of the watershed, and an assessment of stream reach (tributary) conditions. Describe the potential cause and extent of the stream disturbance(s). While we are not looking for a full assessment of all upstream tributaries, a description of all upstream disturbances that may impact the area addressed is needed (i.e., upstream channelization, denuded riparian areas, etc.).

When developing a stream restoration plan, the design must be based on fluvial geomorphologic principles so that the proposed restoration restores both biological and hydrologic function of a natural stream. Objectives of a stream restoration project (see Section 16) should include creating a naturally stable system that transports and stores its sediment, improves water quality and restores habitat.

Stream enhancement involves the improvement of a stream in its existing location with respect to aquatic habitat, channel stability, flow or sediment transport dynamics, but falls short of full- scale restoration. Stream enhancement projects include riparian establishment, bank stabilization or in channel work. These components may be implemented individually or in combination depending on the type of project.

Streambank and wetland protection or restoration projects must include annual reporting of the linear feet of streambank, or acres of wetlands, protected or restored and sediment load reductions.

Water quality monitoring, public involvement and project partners are all critical aspects of a plan of work. However, because of their importance, separate sections on the application are devoted to these aspects. Detailed descriptions for these aspects are provided in Sections 18, 19, and 20.

Use no more than **two pages** to complete this section.

Section 21- Environmental Data Collection

A Quality Assurance Project Plan (QAPP) is required for all projects that involve environmental data collection as a measure of project success. It is critical to provide a brief summary of any environmental data collection efforts. The summary should include the number of sites, parameters to be collected, the frequency of collection, any statistical methods that will be used to analyze data, and a general overview of the data collection strategy.

A QAPP must be submitted and approved by DOW before any monitoring can be conducted. Additional information regarding QAPPs is located on pages 24-26 of this document.

Use no more than **one page** to complete this section.

Section 22- Public Involvement

Describe the level and extent of public involvement in implementing the project. While projects usually include pertinent agency partners, actual public involvement is often lacking. Recruiting and involving local citizens in pollution control initiatives can be critical to the overall success of the project. Local citizen involvement could include an existing water interest group, people who live in or near the project area, or teachers and their classes.

Explain the role that citizens, landowners, stakeholders and/or the public will have in the project. Applicants are strongly encouraged to work with the River Basin Coordinator

and River Basin Team in their project area. However, if questions about the 319(h) grant process arise, please contact one of the NPS staff listed on this document.

Use no more than **one page** to complete this section.

Section 23- Reference/Literature Cited

List supporting citations (references) for statements of fact included in the application. For example, provide references for statements such as “Tourism is a major economic resource...” “...identifies Big Lake as an NPS-impacted lake with threats...” (Smith 2004) or “...complaints of sewage discharges...” (Smith 2004). Because projects are evaluated and ranked by outside reviewers, it is important for the reviewers to know the source and accuracy of this information. See the reference section of this document for an example of citation format.

Section 24- Budget Summary

The Budget Summary describes the work in terms of expenditures for each of the budget categories. Use the total amount of funding, i.e., 319(h) funds plus non-federal match funds, to develop the Budget Summary.

All budgetary items must relate directly to project activities described in the plan of work (e.g., don’t request funds for “field equipment” if you have not described activities that will use this type of equipment). Complete the categories using the format that is contained within the application when developing the Budget Summary. Double check that the Total row and column is correct.

Refer to the following major categories for guidance:

BMP Implementation: Include costs associated with installing or implementing BMPs. Do not include costs associated with planning BMPs, providing BMP technical assistance, advertising or other activities not directly relating to putting the BMP “on-the-ground.”

Project Management: Include costs associated with providing administrative, fiscal and technical oversight on project implementation. Include costs associated with all required invoicing and reporting. Be sure to include costs associated with preparation of the Final Report.

Education, Training or Outreach: Include all costs associated with public education/outreach, technical training or other types of technology exchange programs.

Monitoring: Include all costs associated with water quality monitoring. Do not include costs associated with for educational purposes.

Technical Assistance: Include all costs associated with providing technical water quality and BMP assistance to landowners and agencies.

Other: Use this category for costs that do not fit into the other categories. List the title of “Other” costs on the Budget Summary table.

For assistance with this section please take a look at; Past Funded Projects, Section 319(h) Application Resources, and Section 319(h) Grant Documents tabs located on the [Section 319\(h\) Grant Program Funding webpage](#), including the [319 Budget Worksheet with Tabs](#).

Section 25- Detailed Budget

The Detailed Budget outlines how the federal and non-federal funds will be expended. Do not create new budget categories. Use the prescribed budget categories and format that is contained within the application. For an explanation of each category, see Section 26 called “Budget Narrative” for the details. The amounts in the “Total” column for the Detailed Budget must be the same as the “Total” column in the Budget Summary.

The federal reimbursement for a NPS pollution control project is 60% of the total project cost. Therefore, each project must provide 40% of the total project cost for non-federal match funds.

Double check that the Total row and column is correct.

For assistance with this section please take a look at; Past Funded Projects, Section 319(h) Application Resources, and Section 319(h) Grant Documents tabs located on the [Section 319\(h\) Grant Program Funding webpage](#).

Section 26- Budget Narrative

The Budget Narrative must justify and clarify **all** project expenses by providing supporting information that relates budget items to project activities. Explain how federal and non-federal match funds will be expended. *The Budget Narrative must specify the funding source(s) of non-federal match dollars used in the project.* Do not include information in this section that is already stated elsewhere (e.g., refer to the appropriate project activities in the Plan of Work; do not rewrite them). Refer to the following accepted category descriptions for guidance on the level of information needed:

Personnel - List the position titles of the project staff, include any volunteers, and the number of years and hours to be contributed. Any subcontractor work goes in the Contractual Category. Include the time period (e.g., 0.5 per year (PY) over 3 years). If the personnel dollars that are budgeted are strictly salaries, then add a statement that says no fringe is being charged to the project. However, if fringe is calculated within the personnel dollars, then the fringe percentage rate and amount need to be discussed in the narrative. Do not include indirect/overhead costs in this category. Discuss indirect/overhead charges in the Operating Costs category. Do not use names of individuals since these may change over the life of the project.

Include the details of any non-federal match funds contributed in this category. This includes volunteer match calculated at # of volunteers x # of hours x volunteer rate. The volunteer rate for the year subject to change and is noted on the application.

Supplies - Identify only those supplies under \$500 that are significant in achieving the objectives of the project (e.g., monitoring supplies, educational supplies, etc.). Incidental supplies (e.g., pens, stamps, envelopes, etc.) should be included under the "Operating Costs" category.

Include the details of any non-federal match funds contributed in this category.

Equipment - Purchase of equipment with a value greater than \$5,000 is strongly discouraged. Utilize the following guidelines for the purchase of equipment with a value between \$500 and \$5,000 that is absolutely necessary for the successful completion of your project. Identify any equipment with a value of \$500 or more to be purchased, leased, donated, etc., under this category. List each piece of equipment and its cost separately. Provide justification for the equipment as it relates to the accomplishment of project milestones and measures of success.

If purchasing is more expensive than lease/rental or borrowing from a private or governmental agency provide an explanation in the Budget Narrative. Include a cost analysis that shows the comparison used for the choice.

Include the details of any non-federal match funds contributed in this category.

Provide detailed disposition procedures for all equipment purchases. This should include an analysis of the equipment's value and where it will be placed when the project ends. If the contractor is to retain equipment, include an explanation of how it will be utilized to limit NPS pollution.

Contractual - List all entities that will be subcontracted (hired) to perform an activity or service related to the project and describe those activities or services.

Include the details of any non-federal match funds contributed in this category.

Travel - All travel must result in NPS pollution control benefits to the state of Kentucky. Explain all necessary travel, including who will need to travel (titles), the purpose, how far and all expenses included under this category (e.g., fuel, per diem, etc.). Typically, out-of-state travel cannot be supported with Section 319(h) funds. Contact NPS Program staff for clarification on specific out-of-state travel requests. Travel expenses are often included in an agency or organization's overhead/indirect rate. Be sure requested funds don't "double-dip"!

Include the details of any non-federal match funds contributed in this category.

Operating Costs - List all indirect/overhead items, e.g., building space costs, utility costs, incidental supplies, travel, or any other indirect costs necessary for implementing the project.

Include the indirect/overhead percentage rate and the details of any non-federal match funds contributed in this category.

Note: If your group or agency is requesting indirect costs, you must submit an Indirect Cost Plan with your application. At a minimum the plan must contain the indirect rate, calculation method, and covered items/expenses.

Other- Provide details for other budget categories that do not fit into any of the suggested categories.

Include the details of any non-federal match funds contributed in this category.

For assistance with this section please take a look at; Past Funded Projects, Section 319(h) Application Resources, and Section 319(h) Grant Documents tabs located on [Section 319\(h\) Grant Program funding webpage](#), including the [319 Budget Worksheet with Tabs](#) under the Resources Tab.

Section 27- Milestone Schedule

The milestone schedule component explains the “when” aspect of the project. Think of the milestone dates as an estimated timeline for the life of the project. Milestones include all project activities, including interim steps, needed to implement the project.

Milestones should also include the number of outputs that will be produced as part of the project. The number of milestones will vary considerably depending upon the type of project, the length of the project, and the number of activities.

The application must include a schedule of milestones and their expected beginning and completion dates. Milestones must be listed in chronological order according to the expected beginning date. Projects should plan to begin activities no earlier than the summer of the grant year. Project milestones should be updated when the grant is awarded to accurately reflect the project’s realistic timetable.

The following milestones are already included in all applications and should not be changed:

- **Complete Initial Project Meeting within 3mths of contract signing:** It is required to complete an initial project meeting (IMP) within three months of a signed contract for a project.
- **Complete Annual Project/On Site Meetings:** Projects are required to have annual onsite project meetings with the technical advisors and grant administrators for the term of the project.
- **Submit invoices and progress reports (minimum quarterly) to DOW for review and approval.**

- **Submit an Annual Load Reductions Report to NPS program staff if requested.**
- **Develop and submit materials to Division of Water for review and comment:** This is for any material required by the division that may come up during the project as needed. If the project has a specific material outlined in their activities, that should be its own milestone.
- **Submit advanced written notice to Nonpoint Source (NPS) Program staff for all educational public meetings, field days, workshops, etc.:** This can be done by simply emailing your T.A dates and information for upcoming events.
- **Submit draft news articles, brochures, newsletter articles and other educational outreach materials to NPS Program staff for approval:** This is for any education and outreach material that may come up during the project as needed. If the project has a specific material outlined in their activities, add “*Develop and Submit* (insert name of material) *to Division of Water staff for approval*” as a separate milestone for each product. This could include video scripts, training materials, handbooks, workbooks, manuals, watershed plan chapters etc.
- **Final Report:** The final report is the last deliverable for a project. The report must be reviewed and approved by DOW.

If applicable, the following types of milestones must be included:

- Submit a Final Data Package for DOW approval. *Note: The submittal of a Final Data Package should occur within the first three years of the project.* Submit a Watershed Plan (WSP) for DOW acceptance.
- Meet with DOW staff to discuss WSP monitoring strategy as part of the QAPP development process.
- Develop and Submit a QAPP for DOW approval. Submit all reports required by QAPP
- Develop and Submit a Best Management Practice Implementation Plan
- Watershed Plan Chapters- each milestone should have 1-3 chapters at a time.

- Conduct (#) meetings
- Hold (#) field days
- Conduct (#) workshops

Please complete this section in list format (i.e., 1, 2, 3, etc.) with each milestone having an approximate beginning and ending date. Additional pages may be used as needed.

NOTE: NO project activities can begin before the grant is awarded, all grant conditions are met, and the legal contract is executed.

Section 28- Project Partners

Identify all the partners that will be involved in the project and their roles and responsibilities. Each project partner must have specific responsibilities identified in this section. Partners should be identified by agency/organization and position title. Avoid vague responsibilities such as “will be involved in the project” or “will assist with the project.” Additional pages may be used as needed.

In addition to completing this section of the application, **letters of participation from each identified partner are required.** The letters should be addressed to the project lead agency. The letters must include the partners intended involvement and the services they will contribute. Letters should be included with the application as a separate attachment. The original letters must be included with the hard copy application, and scanned copies must be submitted with the electronic application.

Section 29- Grant Application Conditions

Applicants must read and agree to comply with all applicable conditions listed in this section. *Failure to read, complete, and sign this section will result in the project being removed for consideration for this grant year.*

Be sure to read and thoroughly understand these conditions. Contact NPS Program staff if you need additional guidance or clarification on any of these conditions.

Watershed Plan Conditions

If your project includes the development of a Watershed Plan it must be developed in accordance with the [Watershed Planning Guidebook for Kentucky Communities](#), with emphasis on the “Nine Minimum Elements” described in Appendix B.

Required Training Condition

If your project includes any component of watershed plans, you may be required to complete the [Kentucky Watershed Academy](#). Created by the Kentucky Water Resources Research Institute, the Academy consists of six modules that train local leaders and provide them with the tools and skill sets to successfully champion the development and implementation of watershed plans.

Education Materials Condition

If your project includes school-based educational components, it must conform to the current Kentucky Department of Education Program of Studies.

All materials printed for your education and outreach program must conform to the [North American Association for Environmental Education’s \(NAAEE\) Guidelines for Excellence in Environmental Education Materials \(NAAEE 2021\)](#) and in *K-12 Environmental Education* (NAAEE 2019).

Material Review Condition

All existing materials and final drafts of all printed materials (e.g., announcements, fliers, handbooks, workbooks, public meeting agendas, training materials, manuals, pamphlets, newsletters, news articles, etc.), video scripts and other products must be submitted to NPS Program staff for review and approval prior to final product development. For lengthy materials an outline must be reviewed and approved by NPS Program staff prior to expending funds on first draft development. Review and approval of new, as well as existing, materials ensures that the most appropriate and up-to-date educational materials are being used.

Quality Assurance Condition

If the project includes the collection of environmental data, (e.g., assessment monitoring and watershed projects), then a Quality Assurance Project Plan (QAPP),

standard operating procedures (SOPs) and a Quality Evaluation Report are required. These quality assurance documents are grant requirements and must be reviewed and approved by DOW before data collection activities may begin.

All monitoring activities conducted as a part of a project must be consistent with this approved documentation. Guidance and templates are available for development of quality assurance documentation.

BMP Implementation Plan Condition

If the project includes BMP implementation, a BMP Implementation Plan must be submitted to the NPS program staff for review and approval. The plan must be submitted (as a milestone) and approved before the expenditure of any BMP funds. Do not submit the BMP Implementation Plan with the application. The BMP Implementation Plan will include:

1. A list of BMP technologies to be installed.
2. A description of the technology selection process, the estimated cost and relative treatment efficiency. Include provisions for ongoing operation and maintenance required for the BMP to operate efficiently for the normal expected useful life of the practice.
3. A description of how BMPs will be targeted to specific locations. As BMPs are implemented, a map(s) clearly showing the BMP locations must be submitted to the DOW. Provide a means of notifying the DOW, NPS Section, prior to BMP implementation.
4. A financial plan of action that describes how financial assistance will be provided and the type of maintenance agreement that will be made with the landowner. This agreement must include provisions allowing EPA and the State "to periodically inspect the practice during the life span of the project to ensure that operation and maintenance are occurring. If it is determined that participants are not operating and maintaining practices in an appropriate manner, EPA or the State respectively, will request a refund for that practice supported by the grant" (FY04 EPA Grant Guidelines (IV, D, 8)). A statement that ensures that all agricultural or forestry BMPs will, at a minimum, comply with the Kentucky Agriculture Water Quality Act and/or the Forest Conservation Act.

5. No BMP implementation activities shall occur until DOW has approved the BMP Implementation Plan.

Onsite Wastewater Condition

1. Onsite wastewater projects which serve more than one residence or establishment must include provisions for ongoing operations and maintenance.
2. Projects involving single residential systems should include a homeowner education component addressing operation of their system.
3. All onsite wastewater projects must include completion of a groundwater protection plan.

Animal Feeding Operation (AFO) Condition

Any Animal Feeding Operation (AFO) that receives §319(h) funds will implement a nutrient management plan that:

1. Provides and maintains buffers or equivalent practices.
2. Diverts clean water away from animal manure storage structures and Confined Animal Feeding Operation (CAFO) yards.
3. Prevents direct contact of confined animals with waters of the Commonwealth.
4. Addresses animal mortality disposal.
5. Addresses chemical disposal.
6. Addresses manure testing.
7. Addresses record keeping and testing.
8. Addresses proper storage capacity and maintenance of animal waste-storage structures/facilities.
9. Addresses rates and timing of land application of manure and wastewater.

An AFO is defined as any lot or facility where animals are stabled or confined and fed or maintained for a total of 45 days out of the 12-month period and where crops, vegetation, forage growth, or post-harvest residues are not sustained over any portion of the lot or facility over the growing season.

Stream Restoration/Bank Stabilization Condition

If project activities include stream restoration or bank stabilization, the BMP Implementation Plan must specify or document the procedures that will be used to develop a restoration design. The Plan should:

1. Describe the extent of the design.
2. Describe how the permitting requirements will be met.
3. Relate the restored area to the extent of disturbance.
4. Identify how transitions upstream and downstream from the restoration area will be planned. Describe any channel change and potential changes in flooding.

Bank stabilization techniques may include bioengineering, live staking, tree planting, rock toes, and improving access to the floodplain. Hard revetment such as extensive rip rapping, concrete, grout, gabions or retaining walls should *not* be included in the design.

The BMP Implementation Plan must also include a post-restoration assessment that evaluates the success (stability, duration, etc.) of the restoration techniques. The post-restoration assessment should provide a means for periodic and long-term evaluation of the restoration sites.

Note: A QAPP and Water Quality Certification may be required.

GIS Condition

Projects that include Geographic Information System (GIS) activities must agree to the following condition:

All geospatial data created will be consistent with Federal Geographic Data Committee (FGDC) endorsed standards. Information on federal endorsed standards can be obtained from the [Federal Geographic Data Committee webpage](#) on the Resource Page "[Download Geospatial Standards](#)".

Annual Report Condition

Annual Reports are used to report load reductions and other environmental

successes to the USEPA.

DOW may request an Annual Report for a project. The report should include all project activities and progress completed year (FFY), October 1st through September 30th. Projects that have implemented BMPs in the FFY must provide load reduction information. For more details please contact the NPS Section.

Project Partners Condition

Federal funds shall not be used as match for §319(h) projects. The applicant must contact all project partners and obtain their commitment to participate prior to submitting an application. Letters of participation are required from all listed partners.

Section 30- Application Signature

Applications must be signed, dated, and list the executor's title, by the lead agency's authorized representative.

Applications that are not signed will not be considered for funding.

Meeting Quality Assurance Requirements

DOW operates using a quality system. Under this system, program operations and grants administered by (or through) Kentucky are required to follow certain practices to achieve quality products.

Quality assurance (QA) refers to a system of activities that ensure a program achieves stated goals and objectives. It involves setting policy, procedures and control measures that address an organization's operations. Quality control (QC) refers to the technical procedures followed in the field and in the laboratory to produce data of known and adequate quality standards.

Elements of quality assurance include the *Quality Management Plan* (QMP) (signed and approved by the U.S. Environmental Protection Agency), individual Quality Assurance Project Plans (QAPPs), Standard Operating Procedures (SOPs), and Quality Evaluation Reports.

All environmental data projects must develop and submit a QAPP, SOPs, and Quality Evaluation Report(s).

QAPPs

QAPPs are required for all projects that involve the collection of environmental data (KDEP 2005).

QAPPs document that proper planning has occurred prior to collection of data, describe the implementation of a project, provide for oversight and assessment of project operations, and determine actions based on the outcome of the data. The QAPP is applicable to all types of data collection, including physical, chemical, biological, and fluvial geomorphology.

The QAPP is a "stand alone" document. It is reviewed and approved separately, and with a different perspective than the project application. Therefore, in order to expedite the review process of both documents, certain information will be required in each document. By supplying the information in both documents, time-consuming cross-referencing is eliminated, and reviews can be accomplished in a timely manner.

All sections of the QAPP must be completed or contain an explanation of why the incomplete section is not applicable to the project:

1. Project Management
 - a. Title Page
 - b. Organization of Project
 - c. Data Quality Objectives Training
 - d. Documentation and Records
2. Data Generation
 - a. Sampling Design Sampling Methods Analytical Methods
 - b. Instrumentation and Inspection of Supplies
3. Assessment and Oversight
 - a. Response Action
 - b. Reports to Management
4. Quality Control Activities
 - a. Collection and analysis of duplicate and split samples
 - b. Preparation of and analysis of blank and spike samples
 - c. Regular inspection and calibration of field and analytical instrumentation
 - d. Regular inspection of reagents and supplies

Submit the QAPP: Electronically or through regular mail. QA Evaluation Report (QAER) sent electronically or through regular mail.

SOPs

SOPs must be submitted to support QAPP operations. SOPs document how an activity is performed, who performs the tasks, what checks are in place for the activity and expected outcomes.

All project procedures must be developed and/or followed using SOPs. If the project uses an existing SOP, supporting documentation must be included and approved along with the QAPP. If SOPs are to be developed, proper documentation (literature references or cited data studies) of all procedures must be included.

Quality Evaluation Reports

Quality Evaluation Reports ensure data is of the type and quality that is acceptable to all parties. Quality Evaluation Reports are developed during the project to assure that all operations meet data quality objectives. Quality Evaluation Reports document the

quality control measures, report on the outcomes of the QC data, and discuss events or occurrences throughout the project that may affect the quality of the data.

Quality Assurance Guidance and Templates

The EPA has developed guidance documents for writing QAPPs and SOPs, as well as manuals on developing elements of QAPPs (e.g., data quality objectives, sample plans).

Use the following specific references when writing a QAPP, SOPs or developing data planning operations.

The following website has links and information to use in writing quality assurance documents, [Frequent Questions About EPA's Quality Program](#) including:

- Requirements for Quality Assurance Project Plans (QA/R-5)
- Guidance for Quality Assurance Project Plans (QA/G-5)
- Guidance for Preparing Standard Operating Procedures (QA/G-6)
- Guidance on Systematic Planning, using the Data Quality Objectives Process (QA/G-4)
- Guidance on Choosing a Sampling Design for Environmental Data Collection (QA/G-5S)

The DOW also has guidance and templates to use in developing a QAPP, SOPs and the Quality Evaluation Report.

Using these templates and guidance documents will help assure a timely review of QAPPs and will provide a consistent framework for all grant applicants to use.

Please review [Kentucky's QA and SOP guidance documents](#), including a summary of QAPP elements and examples of quality control measures.

For specific questions on the QAPP, SOPs, or Quality Evaluation Report, please contact Mary Rockey at mary.rockey@ky.gov or by phone at 502-782-5838.

Recommended literature that may be helpful in preparing a QAPP include the following:

- Monitoring guidance for determining the effectiveness of nonpoint source controls. (USEPA 1997a). Refer to Chapter 5, *Quality Assurance and Quality Control*.

- Standard methods for the examination of water and wastewater. (APHA et al. 1998).
- Rapid bioassessment protocols for use in wadeable streams: periphyton, benthic macroinvertebrates, and fish. (USEPA 1999)
- Techniques for tracking, evaluating and reporting the implementation of nonpoint source control measures: agriculture. (USEPA 1997b).
- Techniques for tracking, evaluating and reporting the implementation of nonpoint source control measures: forestry. (USEPA. 1997c).
- Techniques for tracking, evaluating and reporting the implementation of nonpoint source control measures: urban. (USEPA 2001b).
- Guidance for data quality assessment: practical methods for data analysis. (USEPA 2000).
- National handbook of water quality. (USDA 1996).

References

APHA. American Public Health Association, American Water Works Association, and Water Environment Federation. 1998. Standard methods for the examination of water and wastewater. 20th Edition. American Public Health Association, American Water Works Association and Water Environment Federation, Washington, D.C.

Davenport, T. E. 1998. Examining the need for project evaluation. Water Division, U. S. Environmental Protection Agency, Region 5, Chicago, IL.

KDEP. Kentucky Department for Environmental Protection. 2005. Quality management plan.

Kentucky Department for Environmental Protection, Natural Resources and Environmental Protection Cabinet, Frankfort, KY.

DOW. Kentucky Division of Water. 2000. Kentucky nonpoint source management program – 2.0 for Federal fiscal years 2000-2005. Kentucky Division of Water, Natural Resources and Environmental Protection Cabinet, Frankfort, KY. Web address: <http://water.ky.gov/nsp/Pages/default.aspx>

DOW. 2016. Integrated Report to Congress on the Condition of Water Resources in Kentucky, 2016 – Assessment Results with Emphasis on the Big Sandy, Little Sandy, Tygarts River and Kentucky River Basin Management Units and a Statewide Update. Division of Water, Environmental and Public Protection Cabinet, Frankfort, KY. Web address: <https://eec.ky.gov/Environmental-Protection/Water/Monitor/Pages/IntegratedReportDownload.aspx>

DOW. 2002c. Methods for assessing the biological integrity of surface waters. Kentucky Division of Water, Natural Resources and Environmental Protection Cabinet, Frankfort, KY.

NAAEE. 2021. Environmental Education Materials - Guidelines for Excellence. NAAEE Publications, Washington, D.C.

NAAEE. 2019. Guidelines for Excellence: K-12 Environmental Education. .

NAAEE Publications, Washington, D.C.

USEPA. United States Environmental Protection Agency. 1997a. Monitoring guidance for determining the effectiveness of nonpoint source controls. EPA841-B-96-004. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

USEPA. 1997b. Techniques for tracking, evaluating and reporting the implementation of nonpoint source control measures: I. Agriculture. EPA841-B-97-010. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

USEPA. 1997c. Techniques for tracking, evaluating and reporting the implementation of nonpoint source control measures: II. Forestry. EPA841-B-97-009. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

USEPA. 1999. Rapid bioassessment protocols for use in wadeable streams and rivers: periphyton, benthic macroinvertebrates, and fish, 2nd Edition. EPA841-B-99-002. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

USEPA. 2000. Guidance for data quality assessment: practical methods for data analysis.

EPA600-R-96-084. U.S. Environmental Protection Agency, Office of Environmental Information, Washington, D.C.

USEPA. 2001a. EPA requirements for quality assurance project plans. EPA240-B-01-003.

U.S. Environmental Protection Agency, Office of Environmental Information,
Washington, D.C.

USEPA. 2001b. Techniques for tracking, evaluating, and reporting the implementation of nonpoint source control measures: III. Urban. EPA841-B-00-007. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

USEPA. 2013. Nonpoint Source Program and Grants Guidelines for States and Territories. Web address: <https://www.epa.gov/sites/default/files/2015-09/documents/319-guidelines-fy14.pdf>

USEPA, 2008. Handbook for Developing Watershed Plans to Restore and Protect our Waters. Web address: http://www.epa.gov/sites/production/files/2015-09/documents/2008_04_18_nps_watershed_handbook_handbook-2.pdf

USDA. United States Department of Agriculture. 1996. National handbook of water quality monitoring. United States Department of Agriculture, Natural Resources Conservation Service, Washington, D.C.