



GENERAL GUIDELINES

SECTION 319(h) FY2012 GRANT
NONPOINT SOURCE IMPLEMENTATION GRANT

Revised June 2011

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INTRODUCTION

Under Section 319(h) of the Clean Water Act, the U.S. Environmental Protection Agency (USEPA) awards a Nonpoint Source Implementation Grant to the Georgia Environmental Protection Division (GAEPD) to fund eligible projects that support the implementation of the Georgia Nonpoint Source Management Program. These projects must **prevent, control and/or abate nonpoint sources of pollution and address water quality impairments**. Section 319(h) Grant funds are limited. Therefore, GAEPD employs a competitive process to ensure the most appropriate projects are selected for funding. This document is designed to assist applicants with understanding that process and completing the necessary application materials.

If you have any questions about these guidelines or the associated application materials, please contact a 319(h) Staff Member – Contact information is listed on Page 3.

Federal funding for each Grant is dependent on allocations from Congress and adjustments by USEPA. Federal funds are distributed according to the following categorization:

BASE – Approximately 50% for projects that support the Georgia Nonpoint Source Management Program

INCREMENTAL – Approximately 50% for the development and implementation of watershed-based plans and Total Maximum Daily Loads (TMDLs) for impaired waters

Eligible applicants include public governmental agencies in Georgia, such as cities, counties, local authorities operating local government delivery programs, Regional Commissions, Resource Conservation and Development Councils, local school systems, State colleges and universities, and State agencies. State law currently prohibits non-governmental organizations (such as private firms and nonprofit organizations) from receiving Section 319(h) Grant funds directly; however, these organizations are encouraged to develop partnerships with eligible applicants to develop projects.

Maximum federal reimbursement for a 319(h) Grant is limited to 60 percent of the total project cost. Therefore, each awardee must provide **non-federal matching funds** or in-kind services for a minimum of 40 percent of the total project cost. Applicants must clearly demonstrate their match commitment within their project application. Applicants who are able to demonstrate a match commitment of 50 percent or greater will receive priority for funding.

Sample Calculation for Determining Match Commitment

Federal Funds Requested x (2/3) = Required Non-Federal Matching Funds

<i>Example:</i>	319(h) Funds Requested:	\$150,000 (60% of Total Project Cost)
	+ Matching Funds Required:	\$100,000 (40% of Total Project Cost)
	Total Project Cost:	\$250,000 (100% of Total Project Cost)

The maximum amount of individual Federal awards is \$400,000. Indirect rates (sometimes referred to as overhead or administration costs) must be documented by either a Federal review or audit procedures. Documented indirect rates are limited to 25 percent of the Federal direct costs. GAEPD encourages applicants to donate all or the remainder of their indirect costs as a portion of the required 40 percent match commitment.

FUNDING PRIORITIES

Eligible projects are reviewed according to GAEPD and USEPA policy as well as the Georgia Fair and Open Grants Act (FOGA), which are reflected in the funding priorities of the grant. These priorities are incorporated into the competitive scoring process used by the NPS Program to allocate 319(h) funds. The table below is designed to help applicants better understand the priority level of their project proposal. Please note that these tiers are comprised of separate individual project components. It is possible for a project to be comprised of components that span multiple tiers. Therefore, this table is for guidance purposes only and can in no way be used as a prediction for funding approval. Additional information on eligible activities can be found on Page 6.

Tier One – Most Competitive
<ul style="list-style-type: none"> • Result in measureable improvements to water quality • Implement/develop/revise watershed based plans that adequately address USEPA’s Nine Key Elements for Watershed Planning • Address water quality impairments listed as Category 4a on Georgia’s 305(b)/303(d) List of Impaired Waters, specifically those with potential causes as nonpoint source “NP” or urban runoff “UR” • Leverage and/or address other NPS management initiatives and utilize effective partnerships with other actors within the project area • Focus projects efforts within a single 12 digit Hydrologic Unit Code (HUC) or smaller • Address the hydrologic impacts of increased impervious surface within the watershed • Demonstrate a match commitment of 50 percent or higher • Result in environmental benefits above and beyond water quality • Demonstrate the effective administration of previous 319(h), 106 and/or 604(b) Grant projects, where applicable
Tier Two – Competitive
<ul style="list-style-type: none"> • Implement NPS components of watershed based plans that may not adequately address USEPA’s Nine Key Elements for Watershed Planning • Address water quality impairments that have NOT had TMDLS developed and are on Georgia’s 305(b)/303(d) List of Impaired Waters • Demonstrate management practices that are new to Georgia and/or provide an innovative approach to NPS management • Conduct water quality monitoring of previously completed 319(h)-funded NPS implementation projects following GAEPD protocols • Provide technical assistance to local governments that will result in the implementation and/or adoption of ordinances, post-construction stormwater manuals, and/or other administrative NPS management practices • Focus project efforts within a single 10 digit HUC or smaller
Tier Three – Acceptable
<ul style="list-style-type: none"> • Address documented water quality impairments that are not included on Georgia’s 305(b)/303(d) List of Impaired Waters • Provide general education and/or outreach to the public • Develop or revise manuals, guidelines, handbooks or other guidance material • Collect water quality data that is not part of a plan development effort or post-BMP assessment • Establish local regulatory authority (such as Erosion and Sedimentation Control programs)

ELIGIBLE ACTIVITIES

Section 319(h) Grant proposals should specifically identify the sources of NPS pollution that will be addressed by the project and the activities proposed to address these sources. Examples of eligible projects are included in the table below. Please note that this list is not exhaustive and should be considered in context with the Funding Priorities listed on Page 5.

Activity	Example
Watershed Restoration Projects	<ul style="list-style-type: none"> Restoration of a hydrologically modified stream(s) to more “natural” conditions
Watershed Management/Improvement Plan Implementation	<ul style="list-style-type: none"> Implementation of Recommended BMPs from a Watershed Management or Improvement Plan that addresses USEPA’s 9 Key Elements
Watershed Planning	<ul style="list-style-type: none"> Preparation/Revision of a USEPA 9-Key Element Watershed Management/Improvement Plan
Stormwater Projects	<ul style="list-style-type: none"> Installation of stormwater control BMPs Creation of stormwater management program Establishment of a stormwater utility
Agricultural Management Practices Implementation	<ul style="list-style-type: none"> Livestock Fence-Outs Alternate Water Sources Heavy Use Areas Other NRCS approved agricultural BMPs
Stream/Lake Protection	<ul style="list-style-type: none"> Establishment/Maintenance of Buffers
Water Quality Monitoring	<ul style="list-style-type: none"> Assessment of Current Water Quality Assessment of Project Effectiveness
Technical Assistance	<ul style="list-style-type: none"> Ordinance Review Design/Review/Rewrite BMP Criteria
Regulatory or Non-Regulatory Programs for Enforcement	<ul style="list-style-type: none"> Erosion and Sedimentation Inspection/ Inspector
Education / Outreach / Training	<ul style="list-style-type: none"> BMP Workshops Production/Distribution of Water Quality Materials
BMP Demonstration	<ul style="list-style-type: none"> Demonstrate the feasibility of new technology or policies, with evaluation, within the project area

If you have any questions regarding the eligibility of your project proposal, please feel free to contact a staff member listed on Page 3.

What is a TMDL?

A TMDL (Total Maximum Daily Load) is a calculation of the maximum amount of a pollutant that a river, stream, or lake can receive and still meet water quality standards.

For a list of the State of Georgia’s Impaired Waters (305(b)/303(d) list), please visit <http://www.gaepd.org/Documents/305b.html>.

For a list of the State of Georgia’s TMDLs, please visit http://www.gaepd.org/Documents/techguide_wpb.html#tmdl

For more general information on TMDLs, see the USEPA website: <http://www.epa.gov/owow/tmdl/>.

INELIGIBLE ACTIVITIES

Certain projects are not eligible for 319(h) funding due to various Federal and State laws, rules, and policies, and cannot be supported by either federal or local matching funds. Examples of ineligible projects include, but are not limited to:

- Implementation of National Pollutant Discharge Elimination System (NPDES) Permit Requirements (including Concentrated Animal Feeding Operations, Phase I & II Stormwater Permits, Wastewater Permits, etc.)
- Implementation of Elements of a Permit (including Watershed Assessments and/or Protection Plans mandated by an NPDES)
- Dam Construction and/or Removal
- Lake Dredging (Note: Exceptions may be made if ALL sediment sources have been corrected.)
- Surface Paving
- Fulfillment of Consent Orders and/or Decrees
- Installation of Wastewater Infrastructure (including sewer connections)
- Water Quantity/Supply Projects (such as reservoirs, wells, infrastructure, etc.)
- Installation of Incinerators (Note: Composting is the preferred practice for 319(h) funding as a means of dead livestock disposal. Policy document available upon request.)

For more information about other sources of Federal and State funding please visit the following websites:

Federal: <http://cfpub.epa.gov/fedfund/>

State: <http://www.gefa.org/>

APPLICATION INSTRUCTIONS

APPLICATION MATERIALS THAT DO NOT ADHERE TO THE PROVIDED FORMAT AND GUIDELINES MAY NOT BE CONSIDERED FOR FUNDING.

A successful project proposal is thoroughly planned, well prepared and concisely packaged. All activities and project information should be consistent throughout the application materials. Please follow ALL instructions and complete ALL sections. If you feel a section of the application does not pertain to your project, then use a "Not Applicable (N/A)" response. **DO NOT LEAVE ANY SECTIONS BLANK.** Incomplete applications will not be considered for funding. Before submission, please verify all sections of the application have been completed in accordance with the information provided in this Guidelines document.

Applications must be prepared on 8.5" by 11" plain white paper, printed on both sides. Text must be typed, single-spaced and in 12-point normal font. Please number pages and include the project name and applicant on each page. The cover page should be the only item before the application. Pages should NOT be bound by staples. Please include all appendices and attachments at the end and in electronic format as applicable. **SUBMISSION PACKET MUST INCLUDE TWO ORIGINAL HARD COPIES AND ONE DIGITAL COPY SAVED TO A CD IN MICROSOFT WORD SUBMITTED VIA MAIL – FAXES AND EMAIL SUBMISSIONS WILL NOT BE ACCEPTED.**

All applicants are required to meet (or conference call) with GAEPD NPS Program Staff to discuss the project proposal before and application is submitted. Project partners, consultants, or other affiliated parties are welcome to attend, but the primary applicant must be in attendance. **All pre-application meetings MUST be completed by October 15, 2011.** 319(h) Grant Staff are available to review completed draft applications if they are received (email is acceptable) by September 31, 2011.

Application Deadline

FY2012 319(h) Grant applications must be postmarked by **OCTOBER 31, 2011**. Any application postmarked (or hand-delivered) after this date will not be considered for funding.

Applicants will be notified Late Spring 2012 if their Section 319(h) Grant proposal has been recommended for funding. Contingent upon review and approval by USEPA and appropriations by Congress, contracts should be executed Fall 2012.

IF YOU DO NOT UNDERSTAND A SECTION OR IF YOU HAVE ANY QUESTIONS, PLEASE FEEL FREE TO CONTACT A STAFF MEMBER LISTED ON PAGE 3 FOR ASSISTANCE.

Eligible applicants should address their FY2012 319(h) Grant application packages as follows:

Section 319(h) FY2012 Grant Application
ATTN Julie Montaigne
Watershed Protection Branch
Nonpoint Source Program
4220 International Parkway, Suite 101
Atlanta, GA 30354

**SECTION 319(h) FY2012 GRANT PROPOSAL
PROJECT COVER PAGE**

Project Title: _____

*The project title should uniquely identify and describe the project in **two lines** of text or less. The project title should clearly identify the type project (e.g. TMDL implementation, streambank restoration, etc.) and the name of the watershed(s), as applicable.*

Applicant: _____

The Applicant is the lead organization responsible for managing the proposed project. Please see Page 4 for additional information about eligible applicants.

Primary Contact: _____

This contact will be the individual within the Applicant organization who will be responsible for all communication and project administration between the Applicant and GAEPD.

Date of Pre-Application Meeting with GAEPD Staff: _____

Please see Page 8 for additional information about Pre-Application Meeting requirements.

1. For watershed projects, what is the drainage area in Hydrologic Unit Codes (HUC)?

One HUC-10 or Smaller ___ Two HUC-10s ___ One HUC-8 ___ Larger than a HUC-8 ___

List the appropriate HUC-12, 10 or 8 identification numbers(s) as applicable to the project drainage area (*Add additional lines as appropriate*):

Hydrologic Unit Codes (HUCs) are watershed units that range in size from two (2) digits (largest) to twelve (12) digits (smallest) that define watershed boundaries. Additional information about watersheds (e.g. 8-digit HUC boundaries, rivers and streams in a watershed, land characteristics, river corridor and wetlands restoration efforts, index of watershed indicators, etc.) may be accessed through the USEPA webpage: <http://cfpub.epa.gov/surf/locate/index.cfm>.

The USGS 10-digit HUC map for Georgia may be ordered from the USGS Science Information Center (ESIC) at 1-888-275-8747 or at <http://www.usgs.gov>.

2. Is the project proposal implementing a TMDL Implementation Plan/Watershed Improvement Plan, Watershed Restoration Action Strategy or other Watershed Management Plan?

YES ___ NO ___

If YES, identify the title of the document and attach a copy with the application:

TITLE: _____

3. Was the Plan developed using Section 106, 604(b) or 319(h) Grant funds?

YES ___ NO ___

If you are unsure if your plan was developed through one of these Grants, please contact a staff member listed on Page 3 for clarification.

If YES, identify the Section Number, Grant Year and Element or Contract Number as appropriate:

Example: 319(h) Grant FY05-Element 18 or Section 106 Contract 751-XXXXXX

4. Is the project proposal developing a new or revising a current TMDL Implementation Plan/Watershed Improvement Plan, Watershed Restoration Action Strategy or other Watershed Management Plan to address USEPA's Nine Key Elements of Watershed Planning?

YES ___ NO ___

Please see Appendix A for more information on USEPA's Nine Key Elements of Watershed Planning.

5. If Applicant is a local government, does the Applicant have Qualified Local Government Status in compliance with the requirements of the Georgia Planning Act of 1989 and the Service Delivery Strategy Law of 1997?

YES ___ NO ___

Please note that local governments must be in compliance with these State regulations in order to be eligible to execute contracts with GAEPD, per State law.

6. Is the applicant a WaterFirst Community and will the project take place within the WaterFirst community boundary?

YES ___ NO ___

7. Should the enclosed application not be approved for Section 319(h) Grant funds, would you be interested in applying for a GEFA low-cost loan under the nonpoint source provisions or other sources to implement this project?

YES ___ NO ___

Please note that indicating interest in GEFA loans will have no impact on a proposal's eligibility or competitiveness. Applicants who check YES for the above question and are not awarded a 319(h) Grant through the competitive selection process will be referred to GEFA's Nonpoint Source Program for additional funding considerations.

For additional information regarding the WaterFirst and GEFA programs please visit the following websites:

WaterFirst: http://www.dca.state.ga.us/development/environmentalmanagement/programs/water_first.asp

Georgia Environmental Finance Authority: <http://www.gefa.org/>

SECTION 319(h) FY2012 GRANT PROPOSAL PROJECT DESCRIPTION

The project description outlines the specific project objectives and related activities that will take place to achieve them. It is a detailed description of what will occur from the time the project begins until completion. The project description enables the reader to visualize the implementation of the project and should also establish the credibility and competence of the lead organization. Additionally, the project description must specifically identify the nonpoint sources of pollution to be addressed and clearly articulate the activities designed to prevent, control and/or abate those sources.

1. Project Title:

2. Lead Organization and Primary Contact:

Please provide the name, address, telephone number, fax number and email of the lead organization and primary contact.

It is acceptable to also include a secondary point of contact (for instance when an applicant would like to include a contact for a major project partner). However, a primary contact **must** be provided for the applying organization to be able to serve as a point of contact for invoicing, documentation, reporting and other needs.

3. Project Background

The Project Background section provides the justification for funding a particular project and should include all relevant supporting information in a summary format. State existing problems in a **clear and concise** manner and articulate how the proposed project will alleviate those problems. Be sure to include relevant information about how the proposed project activities are appropriate for the watershed including any pertinent land use information. Clearly identify the sources of impairment and include the basis for that information. Provide any supporting documentation demonstrating the need for the proposed project as an appendix to the application (i.e. monitoring data, surveys, etc.). Specify the waterbody(s) to be addressed by the proposed project and provide the listing status as appropriate.

- If the proposed project is part of a continuing or multi-phase project, briefly describe those efforts and their results in this section. Be clear if previous phases of a proposed project were funded by 319(h). Additionally, include information about other ongoing nonpoint source management activities in the watershed whether they represent an effort by the applicant or another party. Describe how the proposed project will support and/or coordinate with other programs in order to leverage efforts across the watershed. Examples include stormwater management programs, NPS education and outreach programs, watershed plan implementation projects, other Section 319(h) projects and other NPS activities.
- If the proposed project is aimed at developing or revising an existing watershed management plan, please provide information about the current plan in relation to USEPA's Nine Key Elements of Watershed Planning and generally describe what revisions are needed to each section. If the proposed project is implementing a watershed management plan, identify the relevant sections that support the need for the

project (i.e. sources of impairment, recommended management measures, etc.). Remember to include a copy of the full plan as an attachment.

- If the proposed project will address hydrologic impacts of increased impervious surface in a watershed, include information on what local managerial mechanisms are in place that will ensure the long-term success of the project as far as minimizing the potential impacts of future hydrologic modifications. Examples of mechanisms may include any stream buffer requirements wider than state minimums; natural resource conservation and/or open space plans; low-impact development or quality growth ordinances; impervious surface limits; stormwater or other nonpoint source utilities; etc.
- Describe any other benefits the proposed project may incur above and beyond improvements to water quality. Examples include air quality protection measures, improved energy efficiencies or reductions, improved habitat quality, endangered species protection, etc.
- Applicants who can demonstrate the successful administration of previous 319(h), 106 and/or 604(b) Grant projects, including compliance with State and Federal guidelines and templates and the ability to complete all project tasks in a timely and cost-effective manner, may receive priority for funding. Please note that first-time applicants will NOT be penalized during the review process. Applicants are encouraged to describe any managerial, administrative or other changes that may have occurred since the completion of a previous project that would improve their ability to successfully manage a 319(h) Grant project in an efficient and effective manner.

See Tables 1 and 2 for lists of example nonpoint source pollutants and major nonpoint source pollution categories and subcategories. Please note these lists are provided for guidance purposes only.

Remember to attach all relevant supporting documentation that is referenced within the application as the 319(h) Review Committee will only consider the materials that are presented with the original application. Applications that do not include appropriate supporting documentation may be considered incomplete and ineligible for review!

4. Project Objectives

The Project Objectives section should **clearly state the overall goal of the proposed project in a concise manner**. Applicants are encouraged to think of this section as a “sound byte” that provides an accurate account of what their project will accomplish in the grant period. The project objectives should directly address the water quality problems identified in the project background. Be sure to include quantifiable goals and focus on the implementation of management measures to achieve and/or maintain state water quality standards. The information provided must be factual and all objectives should be realistic and attainable.

Example

The objective of this project is to implement 5 urban stormwater BMPs as recommended by the Watershed Improvement Plan in order to effectively address elevated sediment levels in Mud Creek. This project will also educate the local citizenry on water quality by conducting 3 hands-on workshops. Overall, this project is expected to result in a sediment load reduction of 25%.

5. Project Activities

The Project Scope of Activities should describe in detail the actions that will be taken in order to achieve the project objectives, the methods of implementation for each activity and a description of the measures of success that will be used to assess the effectiveness of each activity. All items must be directly correlated to the Budget and Project Implementation Schedule.

Project Activity: *The Project Activities identify and describe the main strategies for achieving the project objective. Please include as many activities as are necessary to accomplish the project. See Tables 3 and 4 for lists of example NPS pollution activities and best management practices. Please note these tables are provided for guidance purposes only.*

Tasks: *The Tasks describe the specific actions that are necessary to complete each project activity. Please be detailed and specific as to the project activities will be completed using available resources and provide quantifiable information where appropriate.*

Load reductions models **must** be included as a task for all applicable BMP projects. Note that load reduction estimates must be submitted with each BMP invoice prior to reimbursement.

Product Descriptions: *The Product Descriptions identify all items that will be produced as a result of each task. Provide quantifiable information where appropriate. Examples of products include, but are not limited to: maps, reports, pictures, manuals, monitoring data, monitoring reports, educational materials (brochures, videos, etc.), and signage.*

Measures of Success: *The Measures of Success describe appropriate evaluation criteria for each task that can be used to assess the appropriateness and effectiveness of the project activity. The measures of success should include both quantifiable and qualitative goals to be achieved through the project. Where appropriate describe how a particular measure of success will be determined. **For more information on appropriate Measures of Success, see Appendix B.***

Please see Example Project Scope of Activities on Page 14.

Please note all management practices implemented with Section 319(h) Federal or non-Federal matching funds must be properly operated and maintained for at least 5-10 years.

Please note that conservation land purchases/donations for water quality protection purposes MAY be considered an eligible activity. If you wish to include a conservation property purchase/donation in your project activities (as either a federal or non-federal match expenditure), you must provide ample justification in your grant application. If your project is selected for funding, a written decision will be provided to you regarding the inclusion of the land purchase/donation. Projects that submit their application at least two weeks before the deadline may be eligible to receive this decision earlier. In the event the conservation land purchase/donation is allowed, it will be subject to the *Conditions on Land Acquisition for State of Georgia* (Appendix F) as well as the *Uniform Appraisal Standards for Federal Land Acquisitions* (available upon request). Additional guidance will be provided as appropriate based on Georgia Land Conservation Program policy.

Example Project Scope of Activities

Project Activity 1: Install a minimum of ten (10) agricultural BMPs within the watershed in accordance with the Watershed Improvement Plan.

- **Task 1:** Identify and contact participants
 - *Products:* Contact letters; meeting agendas/notes
 - *Measures of Success:* Contact 90% of agricultural producers within watershed; Identify and contract with 10 producers (representing 75% of available producers) to participate in the project
- **Task 2:** Develop BMP Implementation and Comprehensive Nutrient Management Plans for each participant
 - *Products:* Ten (10) BMP Implementation Plans; ten (10) Comprehensive Nutrient Management Plans
 - *Measures of Success:* 100% completion of necessary plans
- **Task 3:** Install ten (10) BMPs systems in accordance with NRCS specifications
 - *Products:* Pictures of implemented BMPs
 - *Measures of Success:* Complete a minimum of ten (10) BMP systems in accordance with NRCS specifications
- **Task 4:** Estimate load reductions using Region V Model
 - *Products:* Load reduction reports for each BMP (to submitted with reimbursement request)
 - *Measures of Success:* 50% sediment load reduction; 50% phosphorus load reduction; 60% nitrogen load reduction per site

Project Activity 3: Install a minimum of three (3) urban stormwater BMPs within the watershed in accordance with the Watershed Improvement Plan

- **Task 5:** Install three (3) stormwater BMPs on public property taking into account BMP effectiveness, proximity to stream and public access and estimate load reductions
 - *Products:* Maps, BMP design plans, pre- and post-implementation pictures
 - *Measures of Success:* Completion of a minimum of three (3) urban stormwater BMPs in accordance with Blue Book Specifications; 50% sediment load reductions; 50% phosphorus load reduction; 60% nitrogen load reduction (Region V Model)

Project Activity 4: Conduct Educational Outreach

- **Task 6:** Conduct two (2) Urban Stormwater Workshops at BMP sites in order to better educate local homeowners on water quality projects they can do at home
 - *Products:* Workshop materials, pictures
 - *Measures of Success:* Attendance of 20 participants per workshop; 35% improvement in pre- and post- workshop knowledge assessments; Installation of ten (10) stormwater BMPs on private properties (to be assessed by surveys 1, 3 and 6 months after workshop)

Project Activity 2: Conduct Post-BMP Monitoring

- **Task 7:** Identify monitoring sites
 - *Products:* Map of monitoring sites
 - *Measures of Success:* Successful identification of a minimum of five (5) monitoring sites that are representative of the watershed and the BMP locations
- **Task 8:** Conduct post-BMP monitoring in accordance with SQAP
 - *Products:* Monitoring data and report
 - *Measures of Success:* Successful collection of four (4) samples per monitoring site; 35% reduction in fecal counts one year after BMP installation

6. Monitoring

Water quality monitoring is REQUIRED for all 319(h) funded projects involving the installation of structural BMPs. The sampling data will help determine the effectiveness of projects. Monitoring is also expected for source identification purposes related to plan development projects, particularly when there is insufficient data available at the time of the application. In instances when up-to-date data is available, please provide all relevant data summaries as an appendix to the application.

For monitoring costs to be eligible for reimbursement, the lead organization must complete an approved monitoring plan prior to initiating monitoring activities (Please note these documents do not need to be provided with the application. They will be required only for approved projects as applicable). **Guidance on monitoring activities using 319(h) Grant funds or matching funds can be found in Appendix C.**

Include the following information according to the application template:

a) Monitoring Objective:

- Pollution Source Assessment
- BMP Effectiveness
- 305(b)/303(d) List of Waters Assessment

b) Monitoring Type:

- Biological (i.e. Bacteria)
- Chemical/Physical (i.e. DO, pH, conductivity, etc.)
- Habitat (i.e. Macroinvertebrates, Fish IBI, Habitat Assessments)
- Sediment (i.e. Turbidity, TSS, Macroinvertebrates, Fish IBI)

c) Expected Monitoring Design: *Please provide the following information for each stream segment to be addressed by the proposed project.*

Stream Name:

Timeline/Schedule: *Month/Year through Month/Year*

Pre and/or Post BMPs: *Indicate N/A if the project does not include BMPs.*

Proposed monitoring location: *Provide a map of all proposed locations with application.*

Number of BMP sites - *Provide lat/long data if available*

Upstream/Downstream - *If monitoring will be conducted at a BMP site, please indicate if upstream/downstream monitoring will occur (Y or N)*

Number of samples to be collected: *Provide the number of anticipated samples.*

7. Roles and Responsibilities of Partnering Organizations

New for FY2012 Grant Application

All Partnering Organizations identified in this section **must provide a letter of support** clearly stating their support of the proposed project and acknowledging an understanding of their expected roles and responsibilities. These letters should also state whether or not a partnering organization plans to provide match, either through matching funds or in-kind services. All match sources must be clearly delineated in the Project Budget (Page 18).

A description of the roles and responsibilities for all Partnering Organizations allows for a clear delineation of duties and will help maintain a sense of accountability for project partners. Identify

and include all Federal, State, regional and local organizations that will contribute time, services or resources to this project and provide a detailed explanation the expected responsibilities of each partner. Please note that private organizations that will be reimbursed as sub-contractors on the project are not considered to be Partnering Organizations.

Applicants must include all relevant information and utilize the Participating Organizations table provided in the application template.

Organization Name	Specific Responsibilities
<i>(Lead Organization)</i>	<ul style="list-style-type: none"> • <i>Execute grant contract with GAEPD</i> • <i>Provide 40% of total project costs (matching funds or in-kind services)</i> • <i>Request payments from GAEPD on a quarterly basis</i> • <i>Transfer funds to appropriate contractor once payments have been received from GAEPD</i> • <i>Track all grant funds expended and all match values provided in accordance with the implementation schedule</i> • <i>Track all project activities in accordance with the implementation schedule</i> • <i>Complete and submit semi-annual progress reports to GAEPD by March 15th and September 15th of each project year</i> • <i>Complete and submit close-out report at conclusion of project</i> • OTHERS AS APPROPRIATE
<i>(GAEPD)</i>	<ul style="list-style-type: none"> • <i>Provide 60% of total project costs</i> • <i>Review and approve WMP</i> • <i>Review and assist as needed with 319(h) Grant protocols</i> • <i>Provide project oversight and contract management</i>
<i>(Partnering Organization)</i>	<ul style="list-style-type: none"> • •
<i>(Partnering Organization)</i>	<ul style="list-style-type: none"> • •

8. Project Location

- a) **Project Area(s) and Map(s):** *The approximate size and location of the proposed project area must be identified on a map. The project area should be of an appropriate size to ensure the project activities will have a significant impact on the restoration and/or protection of the designated beneficial uses within the watershed(s). Be sure to include the ENTIRE project area on one map even if the proposed project will take place within two or more watersheds. If necessary due to size, the project map may be attached as an appendix to the application, but be sure to reference its location within the application in this section. Also, remember to **include electronic copies of all maps** with the project application.*

b) Watershed or Project Area Size (acres):

c) List the Following for the Watershed or Project Area:

Stream Miles _____
Lake Acreage _____
Wetland Acreage _____

d) Land Uses within the Watershed or Project Area (percentages): *Applicants MUST include supporting documentation verifying the land use distribution identified in this section. Such information can generally be found within the applicable Watershed Improvement Plan or TMDL Implementation Plan as well as County Comprehensive Land Use Plans. Please feel free to contact a Grants staff member listed on Page 3 for assistance.*

Agricultural _____
Commercial Forestry _____
Urban/Residential _____
Mining/Extraction _____
Forest/Natural Areas _____
Water/Wetlands _____
TOTAL _____ 100%

e) Hydrologic Unit Code(s) and Watershed Name(s): *Use the HUC size most appropriate for the project scope. (Repeat Format Below as Needed)*

1) HUC #: _____ Name: _____

2) HUC #: _____ Name: _____

Projects that occur within the following HUC-8 watersheds may receive priority for funding:	
03130001 – Upper Chattahoochee	03150104 – Etowah (Coosa)
03150108 – Tallapoosa	03130003 – Lower/Middle Chattahoochee
03060106 – Middle Savannah	03060107 – Brier (Savannah)
03060203 – Canoochee (Ogeechee)	03070107 – Ohoopsee (Altamaha)
03070106 – Altamaha	03070202 – Little Satilla
03070201 – Satilla	03070101 – Upper Oconee
03120002 – Upper Ochlockonee	03110203 – Withlacoochee (Suwannee)
03070104 – Lower Ocmulgee	03070105 – Little Ocmulgee
03130006 – Middle Flint	03130007 – Kinchafoonee – Muckalee (Flint)
06020002 – Hiawassee (Tennessee)	06020003 – Ocoee (Tennessee)

f) County or Counties:

9. Pollutants to be Addressed

Please see Table 1 on Page 25 for a list of Pollutants that can be addressed through 319(h) projects.

- **Primary:** *Primary Pollutants include the main water quality impairments to be targeted by the project activities. These pollutants should be specifically referenced in the project objective.*

- **Secondary:** *Secondary Pollutants include other water quality impairments that may be positively impacted by the project activities but which are not specifically targeted.*

For example, fecal coliform may be the **primary pollutant** to be addressed by an agricultural BMP implementation project. **Secondary pollutants** to consider include: sediment, nutrients, dissolved oxygen, etc.

10. Impaired Waters

- a) **Section 303(d) and Section 305(b) Lists of Waters:** *Use the table provided in the application template to identify the stream segments within the project area that are included on Georgia’s 2010 305(b)/303(d) List of Impaired Waters as not meeting their designated use(s), including the segment length. **Please include ONLY the segments within the project area to be directly addressed by this project.** These segments should be identified in the project background and objectives. The 2010 305(b)/303(d) List of Impaired Waters can be found online at: <http://gaepd.org/Documents/305b.html>.*

Impaired Waterbody Name (Miles/Acreage)	County Location	Criterion Violated	Listing Status Category 4a, 5	Plan Exists to Implement TMDL YES, NO

- b) **Other Documented Nonpoint Source Impacts (Only if Applicable):** *This section applies only if a stream has a known water quality threat that is documented by the applicant, but is NOT included on Georgia’s 2010 305(b)/303(d) List of Impaired Waters. Identify the impacted segment (including length), the water quality threat, and any supporting documentation that verifies the threat and describes the extent of concern.*

Segment Impacted:

Pollutant or Criterion of Concern:

Source of Documentation: *Acceptable forms of supporting documentation include pictures, local watershed management plans (not attached to a TMDL), water quality data, environmental impact research or studies, etc. If necessary due to length, this information can be attached as an appendix to the application.*

Please note that the inclusion of additional segments in this section will in no way impact its listing status on the 305(b)/303(d) List of Impaired Waters. This section serves only to provide applicants an opportunity to address segments that are not currently listed as impaired.

11. Project Budget

The Project Budget delineates proposed Federal and non-federal matching expenditures by **object class categories** (A-G) as shown on Page 19. The project proposal must provide sufficient detail to justify all project costs, which must correspond directly to the Project Activities

(For example, if a turbidity meter is listed as an equipment budget item, the Project Activities must include a task that would require the purchase of a turbidity meter – i.e. TSS monitoring.)

- **Applicants MUST use the budget format included in the application template.**
- **All project proposals are limited to \$400,000 in requested federal funding.**

Object Class Categories:

- **Personnel:** *Personnel budget items must include the position title, salary rate, full-time equivalent (FTE), work years and a description of responsibilities for each position cited, regardless of funding source.*
- **Fringe Benefits:** *Fringe benefit budget items must include the position title, FTE, fringe rate (as a percentage of salary), and work years for each position cited, regardless of funding source.*
- **Travel:** *Travel budget items should be calculated by multiplying the number of expected travel miles by the current federal mileage rate. Applicants should also clearly identify the personnel traveling by position title and the type and purpose of travel. Be aware that out-of-state travel must be pre-approved by GAEPD and is dependent upon reason for travel and cost.*

The **Federal Mileage Rate** for 2011 is \$.51 per mile. For more information, please visit the following website: <http://www.irs.gov/newsroom/article/0,,id=232017,00.html>

- **Equipment:** *All equipment budget items and costs MUST be itemized separately. Please include brief descriptions, specifications or actual quotes to justify the proposed costs. The term “equipment” applies only to items with a useful life of more than one (1) year. Items that do not meet that qualification should be expressed as “Supplies.” Any single equipment item purchased at a cost over \$5,000 regardless of funding source must be tracked until its value depreciates below \$5,000.*
- **Supplies:** *Supply budget items may be collectively summarized by type (monitoring, administrative, printing, etc) as long as the collective total for each type is less than \$2,000. Otherwise, they MUST be itemized separately.*
- **Contractual:** *Contractual budget items represent formal financial relationships between the lead organization and subcontractors and must identify the type of subcontractor and the applicable project activities. For each large subcontract item (\geq \$30,000), a detailed budget breakdown MUST be attached as an appendix using the same object class categories.*

When procuring equipment and services under a Section 319(h) Grant, the lead organization MUST follow the procurement policies and procedures as delineated in 40 CFR Par 31.36. Copies are available upon request and can also be found online at <http://www.gpoaccess.gov/cfr/retrieve.html>. Allowable costs will be determined in accordance with the cost principles in “OMB Circular A-87.” Copies are available upon request and can also be found online at: www.whitehouse.gov/omb/circulars.

- **Construction:** *GAEPD Section 319(h) Grant funds CANNOT be applied to this category, which applies to infrastructure and related building-type costs. Any eligible BMP construction activities should be included in the Contractual object class category.*
- **Other:** *Other budget items and costs must be itemized separately.*
- **Indirect Charges:** *If indirect charges are appropriate for the lead organization, they may be included as a project cost. The applicant MUST be able to provide documentation supporting the federally approved indirect cost rate for the lead organization. **Indirect charge costs are limited to 25% of the Federal Direct Cost Total.** Any amount of the approved rate above and beyond 25% may be included towards the applicant's match requirement. Applicants are encouraged to count 100% of their indirect rate charges as match.*

Example Budget:

Item	Object Class Category	319(h) Grant Funds (60% Maximum)	Non-Federal Matching Funds (40% Minimum)	Total
A	Personnel: One (1) Project Manager - 1.0 FTE (\$30,000/year) for 3 years Description of Duties: Communication and collaboration with project partners and project oversight	\$90,000	\$0	\$90,000
	One (1) Monitoring Staff - 0.18 FTE (\$60,000/year) for 3 years Description of Duties: Conduct pre- and post- BMP sampling	\$0	\$32,400	\$18,000
	Sub Total:	\$90,000	\$32,400	\$122,400
B	Fringe Benefits: One (1) Project Manager - 1.0 FTE (30%) for 3 years	\$27,000	\$0	\$27,000
	One (1) Staff Position - 0.18 FTE (30%) for 3 years	\$0	\$5,400	\$5,400
	Sub Total:	\$27,000	\$9,720	\$36,720
C	Travel: Staff Position: Project Manager Purpose of Travel: Meetings, Field Days, Site Visits 2,000 miles x \$.51/mile	\$1,020	\$0	\$1,020
	Sub Total:	\$1,020	\$0	\$1,020
D	Equipment: Equipment: Laptop Purpose/Use: BMP tracking, load reductions, communications, educational material design	\$750	\$0	\$750
	Equipment: Projector Purpose/Use: Educational outreach and meetings and field days	\$0	\$250	\$250
	Sub Total:	\$750	\$250	\$1,000
E	Supplies: Supplies: Laboratory Supplies Purpose/Use: Pre- and post- BMP sampling	\$500	\$4,410	\$4,910
	Supplies: Office Supplies Purpose/Use: Meetings, educational outreach, project oversight	\$500	\$0	\$500
	Sub Total:	\$1,000	\$4,410	\$5,410
F	Contractual: Contractor Name: Agricultural Producers TBD Description of Duties: Install BMPs Number and Type of BMP: 10 Systems TBD @ \$20,000	\$100,000	\$100,000	\$200,000
	Sub Total	\$100,000	\$100,000	\$200,000
G	Construction: Does not apply to GAEPD Section 319(h) Grants	N/A	N/A	N/A
H	Other: Audit	\$400	\$0	\$400
	Sub Total	\$400	\$0	\$400
I	Total Direct Charges: (Sum of A-H)	\$220,170	\$146,780	\$366,950
J	Indirect Charges: Indirect Charge Rate (Cannot exceed 25% of Direct Total Charges): 0%	\$0	\$0	\$0
K	Total: (Sum of I and J)	\$220,170	\$146,780	\$366,950

12. Project Implementation and Drawdown Schedule

All project proposals must include a Project Implementation and Drawdown Schedule, which details expected execution of tasks, state and federal reporting requirements and expenditure of funds. **Please note that 319(h) projects CANNOT exceed three (3) years in duration.**

New for FY2012 Grant Application

Applicants are now required to prepare and submit a Section 12: Project Implementation and Drawdown Schedule Gantt Chart, which can be downloaded from the GAEPD website at:

http://www.gaepd.org/Documents/epdforms_wpb.html#nps

Instructions for completing the Gantt Chart as summarized here in the FY2012 Grant Guidelines, however **full instructions are included with the Gantt Chart Excel File.**

The Gantt Chart is formatted to fit one 11 x 17 inch sheet, but can be expanded or shortened as appropriate by the applicant. **All Gantt Charts must be printed in color on 11 x 17 inch paper and attached to the back of the application with a binder clip prior to the inclusion of any appendices.**

The Project Implementation and Drawdown Schedule is contained within a separate file from the Grant Application. **The Schedule MUST be completed according to the template provided.** Detailed instructions are included in the first tab of the file.

The Project Implementation and Drawdown Schedule includes the following items:

- **Project Timeline (Row 2):** 319(h) projects are limited to 3 years in length. The Schedule template assumes awarded projects will be contracted in October 2012 and be completed by September 2015. **For the purposes of the application, all applicants MUST base their timeline on an October 2012 start date.** If a proposed project is expected to be completed prior to September 2015, the remaining columns should be left blank. Once grant funds are awarded, the Schedule can be reconfigured based on actual start and end dates. The Schedule is divided into quarters.
- **Federal Drawdown (Rows 3 & 4):** Applicants **MUST** estimate the amount of 319(h) Grant funds they will spend each quarter as well as the remaining grant fund percentage. The "Initial" column indicates that no grant funds can be expended prior to the contract execution date, and the "Final" column indicates that by the end of 12 quarters all grants funds are expected to be spent. **Please note that the both the grant dollar amount (Row 3) and the percentage remaining (Row 4) must be entered manually into each cell.**
- **Match Expenditures (Rows 6 & 7):** Applicants must also estimate the rate at which they expect to accrue match dollars. The "Initial" column indicates that no match funds can be accrued prior to the contract execution date, and the "Final" column indicates that by the end of 12 quarters, 100 percent of the match commitment will be met. **Please note that both the match dollar amount (Row 6) and the percentage accrued (Row 7) must be entered manually into each cell.**

- **Milestones/Tasks (Rows 11-111):** This section details the timeframe in which each task identified in Section 5 is expected to be completed.
 - **Contract Execution:** This section has already been completed in the Template, and should remain as is.
 - **Tasks:** Applicants should include all tasks from Section 5. Task numbers should remain the same. It may be appropriate to shorten the task title to fit within the allotted space, but the intent of the task should remain clear. Applicants should “fill-in” the appropriate number of cells, creating a line that depicts the expected length of each task in months (tasks that will require less than one month should be represented by the filling in of an entire cell). Applicants are encouraged to color code their tasks by suitable categories. For instance, in the “Example Schedule”, meetings are color coded in purple and tasks that will result in deliverables to GAEPD are color coded in orange. A key should be provided.
 - **Federal/State Reporting Requirements:** FY2012 319(h) Grant recipients will be required to submit Quarterly Reports and Invoices for the length of the project to ensure adherence to the Implementation and Drawdown Schedule and to proactively address any concerns in a timely manner. These reporting requirements have already been completed in the Template (color coded in pink) and should remain as they are.
 - **Contract Close-Out:** This section has already been completed in the Template, and should remain as is. The contract close-out date can be readjusted as necessary once grant funds are awarded.

Please note, that in the event an applicant is approved for funding and a contract for the project is executed, the following language applies:

“If, through any cause, the Contractor shall fail to fulfill in timely and proper manner its obligations under this Contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, the Division shall thereupon have the right to terminate this Contract by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least 15 days before the effective date of such termination.”

LIST OF TABLES AND APPENDICES

TABLES:

Table 1: Nonpoint Source Pollutants

Table 2: Major Nonpoint Source Pollution Categories and Subcategories

Table 3: Nonpoint Source Pollution Activities

Table 4: Best Management Practices

APPENDICES:

(A) USEPA's Nine Key Elements of Watershed Planning

(B) Determining Measures of Success

(C) Monitoring for 319(h) Projects

TABLE 1
NONPOINT SOURCE POLLUTANTS

Algal Growth/Chlorophyll	Organics
Alteration	Pathogens
Flow	Fecal Coliform
Habitat – Other than Flow	Enterocci Coliform
Ammonia	E. Coli
Chlorine	Other
Cyanide	PCBs
Dioxins/Furans	Pesticides
Dissolved Oxygen (Low)	DDT
Ethylene Glycol	Chlordane
Exotic Species	Dieldrin
Herbicides	Diazinon
Atrazine	Other
Alachlor	pH
Other	Phosphorus
Inorganics (Other)	Plants (Noxious Aquatic)
Metals	Propylene Glycol
Aluminum	Radiation
Arsenic	Salinity/TDS/Chlorides
Cadmium	Sedimentation/Siltation (Habitat and/or
Copper	Morphological)
Chromium	Sulfates
Iron	Suspended Solids
Lead	Taste and Odor
Mercury	Temperature
Selenium	Toxics (Total)
Zinc	Trash, Debris, Floatables
Other	Tributyltin
Methyl Tertiary-Butyl Ether	Turbidity
Nitrate	
Nitrogen	
Total Kjeldahl Nitrogen	
Oil and Grease	

TABLE 2
MAJOR NONPOINT SOURCE POLLUTION CATEGORIES AND SUBCATEGORIES

Agriculture

- Non-irrigated Crop Production
- Irrigated Crop Production
- Specialty Crop Production
- Grazing-Related Sources
- Pasture Grazing
- Range Grazing
- Animal Feeding Operations (NPS)
- Aquaculture

Silviculture

- Harvesting/Residue Management
- Reforestation
- Forest Management
- Road Construction/Maintenance

Construction

- Highways/Roads/Bridges
- Land Development or Redevelopment

Urban Runoff/Stormwater

- Municipal
- Commercial
- Residential
- Illicit Connects/Illegal Hook-ups
- Dry Weather Flow
- Highway/Road/Bridge Runoff
- Post-Development Erosion and Sedimentation
- Salt Storage Sites

Resource Extraction

- Surface Mining
- Subsurface Mining
- Open Pit Mining
- Placer Mining
- Dredge Mining
- Petroleum Activities
- Mill Tailings
- Mine Tailings
- Abandoned Mine Drainage
- Sand/Gravel Mining

Land Disposal/Storage/Treatment

- Wastewater
- Landfills
- Inappropriate Waste Disposal
- Industrial Land Management
- On-site/Decentralized Wastewater Treatment

- Hazardous Waste
- Septage Disposal
- Waste Storage/Storage Tank Leaks (above ground)
- Leaking Underground Storage Tanks

Hydromodification

- Channelization
- Channel Erosion/Incision
- Dredging
- Dam Construction
- Upstream Impoundment
- Flow Regulations/Modification
- Other Habitat Modification
- Removal of Riparian Vegetation
- Streambank Modification/Destabilization
- Drainage/Filling of Wetlands
- Groundwater Withdrawal

Marinas and Recreational Boating

- Pumpouts
- Sanitary On-Vessel Discharges
- Other On-Vessel Discharges
- Boat Construction
- Boat Maintenance
- Shoreline Erosion
- Fueling
- Dredging

Turf Management

- Golf Courses
- Yard Maintenance
- Other Turf Management

Historical Pollutants

- Contaminated Sediments
- Clean Sediments
- Other Historical Pollutants

Other NPS Pollution

- Erosion from Derelict Land
- Atmospheric Deposition
- Spills
- Natural Sources
- Recreation/Tourism Activities (non-boat)
- Groundwater Loadings
- Wildlife

Source Unknown

TABLE 3
NONPOINT SOURCE POLLUTION ACTIVITIES

BMP Demonstration Projects

BMP Design/Implementation Activities in
HUC-8 and larger
BMP Performance/Assessment

Restoration/Protection/Prevention

BMP Design/Implementation Activities in
HUC-10 and smaller
Animal Manure/Litter Management Projects
Livestock Control Projects
Vegetation Management/Revegetation
Stream Bank Stabilization
Grade Stabilization
Sediment Control
Stormwater Discharge Design/Control
Erosion Control Projects
Acquisition of Wetland Resources
Wetland Restoration/Protection
Acquisition of Riparian Resources
Riparian Projects
Fisheries Projects
Other Restoration/Protection/Prevention
Activities

Education/Information Activities

Statewide Education/Information Programs
Local (Specific target) Education/Information
Programs

Technical Assistance

Technical Assistance to State/Local
Government
Nonpoint Source Program Overall
Coordination/Management
Nonpoint Source Project Staffing
Technology Transfer to State/Local
Government
Other Technical Assistance Activity

Regulatory / Enforcement Activities

Certification Activities
Program Development Activities
Inspection Activities
Ordinance Development
Enforcement Activities

Planning Activities

Nutrient Management Planning
Watershed Modeling Planning
Stormwater Management Planning
Watershed Planning
Geographic Information Systems
Develop/Revise Basin Plans
TMDLs
Nonstructural Planning (for new
development)
Livestock Grazing System Planning
Other Planning Activities

Water Quality Assessment/Monitoring

Instream Flow Assessments
Assessments for Compliance with Water
Quality Standards
Wetland Assessment/Monitoring
Riparian Assessment/Monitoring
TMDL Assessments
Water Quality Trend Assessment
Water Quality Problem Identification
Other Water Quality Assessment/Monitoring
BMP Effectiveness Monitoring
Biological Monitoring
Watershed Assessments
319(h) National Monitoring Project

Other Activities

Groundwater (all groundwater activities)
Antidegradation Activities and Analyses
Soil Analyses

TABLE 4
BEST MANAGEMENT PRACTICES

0310	Bedding	0436	Irrigation Storage Reservoir	0572	Spoil Spreading
0312	Waste Management System	0441	Irrigation Trickle	0574	Spring Development
0313	Waste Storage Structure	0442	Irrigation Sprinkler	0575	Stock Trails/Walkways
0314	Brush Management	0443	Irrigation Surface and Below	0580	Stream/Shoreline Protect
0317	Compost Facility	0447	Irrigation Tailwater Recover	0582	Open Channel
0320	Irrigation Canal/Lateral	0449	Irrigation Water Management	0584	Stream Channel Stability
0322	Channel Vegetation	0451	Land Fire Control	0585	Stripcropping-Contour
0324	Chiseling and Subsoiling	0452	Land Shaft and Adit Closing	0586	Stripcropping-Field
0326	Clearing and Snagging	0453	Land Landslide Treatment	0587	Structure for Water Control
0327	Conservation Cover	0454	Land Subsidence Treatment	0589	Stripcropping-Wind
0328	Conservation Cropping Sequence	0455	Land Toxic Discharge Control	0590	Nutrient Management
				0595	Pest Management
0329	Conservation Tillage	0456	Land Highwall Treatment	0600	Terrace
0330	Contour Farming	0460	Land Clearing	0606	Subsurface Drain
0331	Contour Orchard/Other Fruit	0462	Precision Land Forming	0607	Surface Drain Field Ditch
0335	Controlled Drainage	0464	Irrigation Land Leveling	0608	Surface Drain Maintenance
0338	Prescribed Burning	0466	Land Smoothing	0609	Surface Roughening
0340	Cover/Green Manure Crop	0468	Lined Waterway or Outlet	0610	Toxic Salt Reduction
0342	Critical Area Planting	0472	Livestock Exclusion	0612	Tree Planting
0344	Crop Residue Use	0482	Mole Drain	0614	Trough or Tank
0348	Dam-Diversion	0484	Mulching	0620	Underground Outlet
0349	Dam-Multiple Purpose	0490	Woodland Site Preparation	0630	Vertical Drain
0350	Sediment Basin	0500	Obstruction Removal	0633	Waste Utilization
0352	Deferred Grazing	0510	Pasture and Hayland Management	0636	Water Harvest Catchment
0354	Delayed Seedbed Preparation	0512	Pasture/Hayland Planting	0638	Water/Sediment Control Basin
0356	Dike	0516	Pipeline	0640	Waterspreading
0359	Waste Treatment Lagoon	0521	Pond Sealing or Lining	0641	Water Table Control
0362	Diversion	0528	Proper Grazing Use	0642	Well
0378	Pond	0530	Proper Woodland Grazing	0644	Wildlife Wetland Management
0380	Farm and Feedlock Windbreak	0532	Pumped Well Drain		
		0533	Pumping Plant-Water Control	0645	Wildlife Upland Area Management
0382	Fencing			0648	Wildlife Watering
0386	Field Border	0543	Land Reconstruction Abandoned Mine	0650	Windbreak Renovation
0388	Irrigation Field Ditch			0652	Woodland Direct Seeding
0392	Field Windbreak	0544	Land Reconstruction Current Mine	0654	Woodland Improved Harvest
0393	Filter Strip			0657	Wetland Restoration
0394	Firebreak	0548	Grazing Land Mechanical Treatment	0660	Woodland Pruning
0395	Fish Stream Improvement			0666	Woodland Improvement
0397	Commercial Fishponds	0550	Range Seeding	0901	Urban Catch Basin
0398	Fish Raceway or Tank	0552	Irrigation Pit/Reservoir	0902	Urban Catch Basin – Oil
0399	Fishpond Management	0554	Regulate Water-Drain System	0903	Urban Catch Basin – Sand
0400	Floodwater Diversion			0904	Urban Concrete Grid
0402	Dam-Floodwater Retarding	0555	Rock Barrier	0905	Urban Extension Detention Pond
0404	Floodway	0556	Planned Grazing Systems		
0408	Forest and Erosion Control	0557	Row Arrangement	0906	Urban Filtration Basin
0409	Forest Land Management	0558	Roof Runoff Management	0907	Urban Grassed Swale
0410	Grade Stabilization Structure	0560	Access Road	0908	Urban Infiltration Basin
0411	Grasses/Legumes Rotation	0561	Heavy Use Area Protection	0908	Urban Infiltration Trench
0412	Grassed Waterway	0562	Recreation Area Improvement	0910	Urban Porous Pavement
0422	Hedgerow Planting			0911	Urban Stormwater Wetland
0423	Hillside Ditch	0566	Recreation Land Grading	0912	Urban Vegetated Filter
0425	Waste Storage Pond	0568	Recreation Trail/Walkway	0913	Urban Wet Pond
0428	Irrigation Ditch/Canal	0570	Runoff Management System		
0430	Irrigation Pipeline	0571	Soil Salinity Management		

APPENDIX A

USEPA'S NINE KEY ELEMENTS OF WATERSHED PLANNING

Nine Elements of Watershed Plans

a. Identification of causes of impairment and pollutant sources or groups of similar sources that need to be controlled to achieve needed load reductions, and any other goals identified in the watershed plan. Sources that need to be controlled should be identified at the significant subcategory level along with estimates of the extent to which they are present in the watershed (e.g., X number of dairy cattle feedlots needing upgrading, including a rough estimate of the number of cattle per facility; Y acres of row crops needing improved nutrient management or sediment control; or Z linear miles of eroded streambank needing remediation).
 (Chapters 5, 6, and 7.)

What does this mean?

Your watershed plan should include a map of the watershed that locates the major causes and sources of impairment. To address these impairments, you will set goals that will include (at a minimum) meeting the appropriate water quality standards for pollutants that threaten or impair the physical, chemical, or biological integrity of the watershed covered in the plan.

This element will usually include an accounting of the significant point and nonpoint sources in addition to the natural background levels that make up the pollutant loads causing problems in the watershed. If a TMDL exists, this element may be adequately addressed. If not, you will need to conduct a similar analysis to do this. The analytical methods may include mapping, modeling, monitoring, and field assessments to make the link between the sources of pollution and the extent to which they cause the water to exceed relevant water quality standards.

b. An estimate of the load reductions expected from management measures.

What does this mean?

On the basis of the existing source loads estimated for element *a*, you will similarly determine the reductions needed to meet the water quality standards. You will then identify various management measures (see element *c* below) that will help to reduce the pollutant loads and estimate the load reductions expected as a result of these management measures to be implemented, recognizing the difficulty in precisely predicting the performance of management measures over time.

Estimates should be provided at the same level as that required in the scale and scope component in paragraph *a* (e.g., the total load reduction expected for dairy cattle feedlots, row crops, or eroded streambanks). For waters for which EPA has approved or established

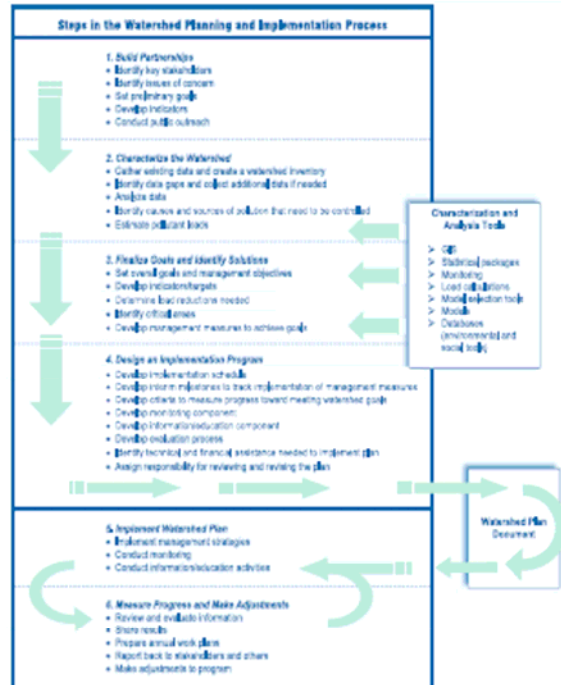


Figure 2-3. Incorporating the Nine Minimum Elements into Your Watershed Plan

TMDLs, the plan should identify and incorporate the TMDLs. Applicable loads for downstream waters should be included so that water delivered to a downstream or adjacent segment does not exceed the water quality standards for the pollutant of concern at the water segment boundary. The estimate should account for reductions in pollutant loads from point and nonpoint sources identified in the TMDL as necessary to attain the applicable water quality standards. (↪ Chapters 8 and 9.)

c. A description of the nonpoint source management measures that will need to be implemented to achieve load reductions in paragraph 2, and a description of the critical areas in which those measures will be needed to implement this plan.

What does this mean?

The plan should describe the management measures that need to be implemented to achieve the load reductions estimated under element *b*, as well as to achieve any additional pollution prevention goals called out in the watershed plan (e.g., habitat conservation and protection). Pollutant loads will vary even within land use types, so the plan should also identify the critical areas in which those measures will be needed to implement the plan. This description should be detailed enough to guide implementation activities and can be greatly enhanced by identifying on a map priority areas and practices. (↪ Chapters 7, 8, 9, 10, and 11.)

d. Estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon to implement this plan.

What does this mean?

You should estimate the financial and technical assistance needed to implement the entire plan. This includes implementation and long-term operation and maintenance of management measures, I/E activities, monitoring, and evaluation activities. You should also document which relevant authorities might play a role in implementing the plan. Plan sponsors should consider the use of federal, state, local, and private funds or resources that might be available to assist in implementing the plan. Shortfalls between needs and available resources should be identified and addressed in the plan. (↪ Chapter 12.)

e. An information and education component used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the nonpoint source management measures that will be implemented.

What does this mean?

The plan should include an I/E component that identifies the education and outreach activities or actions that will be used to implement the plan. These I/E activities may support the adoption and long-term operation and maintenance of management practices and support stakeholder involvement efforts. (↪ Chapters 3 and 12.)

f. Schedule for implementing the nonpoint source management measures identified in this plan that is reasonably expeditious.

What does this mean?

You should include a schedule for implementing the management measures outlined in your watershed plan. The schedule should reflect the milestones you develop in *g*. (↪ Chapter 12.)

g. A description of interim measurable milestones for determining whether nonpoint source management measures or other control actions are being implemented. (↪ Chapter 12.)

What does this mean?

You'll develop interim, measurable milestones to measure progress in implementing the management measures for your watershed plan. These milestones will measure the implementation of the management measures, such as whether they are being implemented on schedule, whereas element *h* (see below) will measure the effectiveness of the management measures, for example, by documenting improvements in water quality.

h. A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made toward attaining water quality standards.

What does this mean?

As projects are implemented in the watershed, you will need water quality benchmarks to track progress. The *criteria* in element *h* (not to be confused with *water quality criteria* in state regulations) are the benchmarks or waypoints to measure against through monitoring. These interim targets can be direct measurements (e.g., fecal coliform concentrations) or indirect indicators of load reduction (e.g., number of beach closings). You should also indicate how you'll determine whether the watershed plan needs to be revised if interim targets are not met. These revisions could involve changing management practices, updating the loading analyses, and reassessing the time it takes for pollution concentrations to respond to treatment. (↪ Chapters 12 and 13.)

*i. A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under item *h* immediately above.*

What does this mean?

The watershed plan should include a monitoring component to determine whether progress is being made toward attaining or maintaining the applicable water quality standards. The monitoring program should be fully integrated with the established schedule and interim milestone criteria identified above. The monitoring component should be designed to determine whether loading reductions are being achieved over time and substantial progress in meeting water quality standards is being made. Watershed-scale monitoring can be used to measure the effects of multiple programs, projects, and trends over time. Instream monitoring does not have to be conducted for individual BMPs unless that type of monitoring is particularly relevant to the project. (↪ Chapters 6, 12, and 13.)

From the *Handbook for Developing Watershed Plans to Restore and Protect Our Waters*. USEPA. March 2008.
http://water.epa.gov/polwaste/nps/handbook_index.cfm

APPENDIX B

DETERMINING MEASURES OF SUCCESS

The Measures of Success are critical components of a successful project proposal. They provide the criteria by which a project will be assessed to determine if the Tasks and Project Activities are being accomplished in an effective manner in order to achieve the Project Objective. The Measures of Success also demonstrate that an applicant has a clear understanding of the expected efforts and results involved with each Project Task.

When developing the Project Activities, applicants should think about what criteria are necessary in order to demonstrate that each specific Project Task will be accomplished successfully. These criteria should include both qualitative and/or quantitative measures as appropriate. For some Project Tasks, the Measures of Success will be easier to develop than for others. For instance, for certain BMP implementation tasks, the primary indicator of success will be expected load reductions in the primary and secondary pollutants. For other projects, the Measures of Success will require more creativity and thought to be able to best capture the success of the tasks. For instance, for educational outreach tasks, a general Measure of Success is improved understanding of NPS issues throughout the watershed. However, applicants are highly encouraged to provide metrics that will demonstrate an improved understanding is an actual result of the Project Tasks. To do so, it may be necessary to conduct some sort of educational survey before and after educational materials are disseminated or workshops are conducted.

As appropriate, the Measures of Success should include both the expected outcome of each Project Task as well as a short description of how each Measure will be determined. For instance, if a Project Task is to install 3 rain gardens, the Measures of Success should include not only expected load reductions, but how those load reductions will be determined (i.e. modeling or monitoring). The completion of the rain gardens should also be included and should reference any appropriate design specifications.

Be Specific and Avoid Generalizations!

Example 1

Generalized Measure of Success:	“Improved water quality within Reedy Creek”
Preferred Specific Measure of Success:	“A 25% reduction in fecal coliform levels to be determined through water quality monitoring”

Please note that in some instances, the Measures of Success may seem redundant in consideration of the Project Task. For instance, if the Project Task is to develop 10 Comprehensive Nutrient Management Plans, the only logical indicator of success may be the documented completion of said plans. These redundancies are inherent in some Project Tasks, and applicants will not be penalized in the event they occur within an application.

Examples of Measures of Success per Project Activity are included on Page X. Please note that projects may include tasks from many different Project Activities. The example list is not exhaustive and is for guidance purposes only. Applicants should include the Measures of Success they feel are most appropriate for their projects regardless of their location or inclusion on the list.

Project Activity	Examples of Measures of Success
Watershed Planning	<ul style="list-style-type: none"> • Creation of a stakeholder committee that is inclusive and representative of watershed interests • Number of monitoring sites established • Description of data results necessary to determine pollutant sources • Development of a 9 Key Element Plan • Number of attendees at stakeholder and public meetings (percentage of target) • Scope of pertinent area (watershed, jurisdiction) covered
BMP Implementation	<ul style="list-style-type: none"> • Number of landowners contacted • Number of projects contracted (percentage of target) • Percentage of watershed affected by project • Percentage of pollutant sources addressed • Number of appropriate designs/plans • Number of completed BMPs in accordance with appropriate specifications • Estimate of load reductions for nitrogen, phosphorus and sediment • Estimate of water quality and other environmental benefits above and beyond load reductions (based on modeling and/or monitoring) • Effectiveness of BMP(s) in reducing primary and secondary pollutants (based on modeling and/or monitoring) • Number of field days/workshops/etc and number of participants
Monitoring	<ul style="list-style-type: none"> • Number of monitoring sites • Percentage of watershed for which monitoring data will be collected • Completion of Monitoring Plan in accordance with GAEPD Guidelines • Collection of data in accordance with Monitoring Plan • Summarization of data results (load reductions)
Education and Outreach	<ul style="list-style-type: none"> • Number and description of educational materials produced and distributed • Percentage of watershed population affected by project • Attendance at workshops/meetings/classes by target audience (to be demonstrated through sign-in sheets, agendas, etc.) • Improvement in water quality knowledge (based on survey or test results) • Description of expected behavior change (based on survey results or other methods) • Number of Continuing Education credits earned • Creation of/Participation in Adopt-A-Stream or other volunteer groups • Number of field days/workshops/etc and number of participants
Technical Assistance	<ul style="list-style-type: none"> • Number/Percentage of participating local governments and other relevant stakeholders • Extent of assistance performed (i.e. number of ordinances developed/implemented; workshops held and attendance; plans completed; monitoring results; etc.)
BMP Demonstration	<ul style="list-style-type: none"> • Participation of appropriate parties/property owners • Number of installed BMPs • Monitoring results • Achievement towards specific demonstration goals/purpose • Effectiveness of BMP(s) in reducing primary and secondary pollutants • Expected future use of results (i.e. future use of BMP within watershed, etc.) • Number of field days/workshops/etc and number of participants
Regulatory Programs	<ul style="list-style-type: none"> • Establishment of self-funding mechanism within an appropriate timeframe • Number of inspections, reports, plan reviews, citations etc. • Number of ordinances developed/implemented/supported

APPENDIX C

MONITORING GUIDANCE FOR 319(h) PROJECTS

Monitoring Purposes

Monitoring funded by 319(h) Grants will be conducted for the following purposes:

- Provide data to update assessments on the 305(b) / 303(d) List of State Waters;
- Detect the most likely sources of impairment within a watershed; and/or
- Assess the effectiveness of Best Management Practices (BMPs) by sampling pre- and post-installation to determine reduction in pollutant loads.

Water quality monitoring is REQUIRED for all 319(h) funded projects involving the installation of structural BMPs.

Monitoring Types

There are two distinct types of monitoring associated with a 319(h) Grant-funded project:

- 305(b) / 303(d) List Monitoring, and
- Targeted / BMP Monitoring.

Monitoring Plans

Once the monitoring purpose and appropriate, corresponding monitoring type have been determined, **a specific monitoring plan** will be required to describe the protocol for selecting sampling sites, establishing collection techniques, and conducting water quality analysis.

319(h) grant Applications that request funds for monitoring must identify the monitoring purpose and type, and include the preliminary content of a specific monitoring plan in the initial proposal. A more-detailed plan will be required if the project is selected for funding.

A **Sampling Quality Assurance Plan (SQAP)** for 305(b) / 303(d) List Monitoring and/or a plan for Targeted / BMP Monitoring will be expected to detail the following topics:

Watershed Description:

- Delineation, general conditions, jurisdictions, and reasons for monitoring
- Stream segment name(s) and location(s), and pollutant(s) / indicator(s) sampled

Sampling Sites and Locations:

- Site names and locations, GPS lat/long coordinates, and map

Procedures:

- Names, affiliations and credentials of field and laboratory personnel
- Description of methodology and materials used to collect and analyze samples

Schedule :

- Monitoring time period and dates of sample collection

Quality Assurance:

- Names and affiliations of training staff, and dates of training workshops
- Chain of Custody / rules for sample storage, transport and disposal

Data Retention:

- Names, locations and duration of data storage
- Procedures for reporting and sharing data

Guidance on both 305(b) / 303(d) List Monitoring and Targeted / BMP Monitoring can be found in GAEPD's **How to Plan for and Proceed with 319(h) Grant-Funded Monitoring**, available upon request.

305(b) / 303(d) LIST MONITORING

Water quality monitoring for listing assessments involves collecting data from impaired water bodies “Not Supporting” or “Assessment Pending” for water use classifications, and is subject to the Quality Control / Quality Assurance requirements described in GAEPD’s **Water Protection Branch Quality Assurance Manual** (June 1999, Jan 2005 revision)¹ and Quality Assurance Project Plan. Chapter 391-3-6-.03(13) on page 15 of **Georgia Rules and Regulations for Water Quality Control**² describes requirements that need to be met in order for GAEPD to use water quality data collected by outside sources for use in 305(b) / 303(d) listing decisions.

Samples are to be collected, when feasible, at the same site(s) that previously placed the water body on the 305(b) / 303(d) List. GAEPD will need to approve an alternative location if sampling at the original site is not feasible. Qualified data that fits criteria outlined in **Georgia’s 2010 305(b)/303(d) Listing Assessment Methodology**³ will be reviewed by GAEPD to determine if a stream meets water quality standards and may be moved to a “Supporting” status.

Pollutant or Indicator	Summary of Water Quality Standards*	Required Number of Samples
Fecal Coliform	Two seasonal in-stream water quality standards for geometric means: 1,000 mpn per 100 ml (Nov-April) 200 mpn per 100 ml (May-Oct)	16 samples per site: 4 samples collected within a 30-day period during each of 4 calendar quarters or seasons to calculate 4 geometric means. NOTE: The 30-day sampling period must not overlap the months of April/May or October/November due to seasonal changes in water quality standards.
Dissolved Oxygen	5mg/l (daily average) 4 mg/l (minimum)	20 measurements within a 12 month period (1-2 measurements per month)
Temperature	90° F (maximum)	20 measurements within a 12 month period (1-2 measurements per month)
pH	6.0-8.5 std. Units	20 measurements within a 12 month period (1-2 measurements per month)

NOTE: GA EPD will consider requests to monitor additional pollutants or indicators on a case-by-case basis.
 *Specific water use classifications (Fishing, Recreation, Scenic River, etc.) have different water quality standards².
¹http://www.gaepd.org/Files_PDF/techguide/wpb/Water_Protection_Branch_Quality_Assurance_Manual_Revision2005.pdf
²<http://rules.sos.state.ga.us/docs/391/3/6/03.pdf>
³http://www.gaepd.org/Files_PDF/305b/Y2010_303d/Listing_assessment_methodology_Y2010.pdf

The U.S. Environmental Protection Agency (USEPA) requires Georgia to provide a biennial 305(b) / 303(d) listing assessment report on April 1st of every even-numbered year (2014, 2016, 2018, etc.). To be considered for a listing assessment, data must be submitted to the GA EPD no later than June 30th of each odd-numbered-year (2013, 2015, 2017, etc.) for review and assessment before submitting the report to the U.S. EPA for approval.

Steps to 305(b)/303(d) List Monitoring of Water Bodies Not Supporting Designated Uses

- Design and submit a site-specific **Sampling Quality Assurance Plan (SQAP)** that follows procedures described in the **Guidance on Submitting Water Quality Data for Use by the Georgia EPD in 305(b)/303(d) Listing Assessments** (October 2002)*.
- Schedule certified training by GAEPD's Monitoring Unit that will include instructions on proper site access, sample collection and handling, and in-situ testing and analysis (i.e. dissolved oxygen, pH, temperature).
- Collect and deliver samples under the chain-of-custody authorized by a certified laboratory analyst or accredited laboratory as referenced in the GA EPD's **Water Protection Branch Quality Assurance Manual** (June 1999, Jan 2005 revision)*.
- Employ sample collection methods that conform to the guidelines in the **Water Protection Branch Quality Assurance Manual** (June 1999, Jan 2005 revision)*.
- Report testing results based on analytical procedures approved by the U.S. EPA as outlined in the **Title 40, Code of Federal Regulations, Part 136** *.
- Assure analytic tests are performed by a certified laboratory analyst or by personnel from an accredited laboratory.
- Report testing results (if collected) with each invoice¹ submitted; and, where appropriate, the data should be accompanied by load reduction information based on a load reduction model such as STEPL or Region 5.
- Complete a Final Monitoring Report² for GA EPD review that compiles all data, notes, and information gathered on the conditions of the watershed. The Final Monitoring Report should be submitted in hardcopy format with the Final Project Closeout Report.

* Access at http://www.gaepd.org/Documents/techguide_wpb.html#figa

¹ Invoices that include reimbursement for monitoring costs may not be paid until water quality data is received.

² If a watershed plan (of any type) is being completed as part of the project, the completed watershed plan will serve as the Final Monitoring Report.

TARGETED / BMP MONITORING

Targeted / BMP Monitoring aims at particular sources of pollution or tracks BMP effectiveness, and is intended to provide a broader picture of water quality conditions within a watershed. Samples or in-stream measurements are collected following GA Adopt-A-Stream Program or other GAEPD-approved Quality Assurance / Quality Control techniques. Monitoring is performed at multiple locations in the watershed along with any already-established GAEPD /

USEPA sampling site(s). Resulting data can direct resources toward areas that show the greatest need for implementation of BMPs recommended to reduce the pollutant loads.

If Targeted / BMP Monitoring data shows improvement in water quality, this can lead to monitoring for 305(b) / 303(d) List purposes under an approved SQAP or by GAEPD.

Pollutant or Indicator	Recommended Water Quality Criteria*	Required Number of Samples
E. coli ¹	Swimming Categories Designated: <235 cfu/100 mL Moderate: <298 cfu/100 mL Light: <410 cfu/100 mL Infrequent: <576 cfu/100 mL	1 sample per site every month (12 samples per year)
Dissolved Oxygen ²	5mg/l (daily average) 4 mg/l (minimum)	20 measurements within a 12-month period (1-2 measurements per month)
Temperature ²	90° F (maximum)	20 measurements within a 12-month period (1-2 measurements per month)
pH ²	6.0-8.5 standard units	20 measurements within a 12-month period (1-2 measurements per month)
Phosphorus ³	Normal background levels: < 0.1 ppm	1 sample per site every month (12 samples per year)
Nitrogen ³	Normal background levels: < 1 ppm	1 sample per site every month (12 samples per year)
Conductivity ³	Georgia streams supporting mixed fisheries range from 50 to 500 mS/cm	1 measurement per site every month (12 measurements per year) Establish normal background levels Follow up any deviations
Habitat Assessment ²	All waters shall be free from substances that interfere with legitimate water uses or are harmful to humans, animals or aquatic life.	Quarterly assessments at each site 4 pre-BMP and 4 post-BMP installation (8 measurements per year)
Turbidity ²	All waters shall be free from turbidity that causes a substantial visual contrast in a water body.	3 pre- and post-BMP wet weather samples per season (May-October / November-April) (6 wet weather samples per year)
Total Suspended Solids (TSS) ⁴	Reduce post-development total suspended solids loadings by 80%, as measured on an average annual basis.	3 pre- and post-BMP wet weather samples per season (May-October / November-April) (6 wet weather samples per year)
Settleable Solids (Imhoff Cone) ³	Excessive solids block sunlight, clog fish gills, smother aquatic habitats, carry toxic substances, and erode stream banks.	3 pre- and post-BMP wet weather samples per season (May-October / November-April) (6 wet weather samples per year)

*Specific water use classifications (Fishing, Recreation, Scenic River, etc.) have different water quality standards².

¹ USEPA recommendations based on an acceptable risk level of 8 people out of 1000 getting sick

² GAEPD water quality standard: <http://rules.sos.state.ga.us/docs/391/3/6/03.pdf>

³GA Adopt-A-Stream data

⁴USEPA guidance adopted by GAEPD: <http://www.georgiastormwater.com>

The pollutants or indicators that GA EPD considers priorities for 319(h) grant-funded monitoring are bacteria (fecal coliform, E. coli and Enterococci), dissolved oxygen, nutrients (phosphorus and nitrogen) and sediment. Monitoring for sediment consists of habitat assessments and measurements for turbidity and Total Suspended Solids. GA EPD may allow other monitoring (macroinvertebrates, pebble counts, metals, toxicity) under certain conditions.

Monitoring to prioritize sources or areas of pollutant loadings (“hot spots”) would be considered pre-BMP monitoring. Post-BMP monitoring takes place after BMP installations to evaluate whether BMPs are effective in improving water quality. In both pre- and post-BMP monitoring, sampling sites are usually located upstream and/or downstream of BMP installations.

Steps to Targeted / BMP Monitoring

- **Determine pollutants or indicators to be monitored and develop an approved Targeted / BMP Monitoring Plan that follows the methods and procedures described in the most current GA Adopt-A-Stream Program (AAS) *Visual Stream Survey*, Biological & Chemical Stream Monitoring and Bacterial Monitoring manuals*.**
- Schedule certified training by GA EPD’s Monitoring Unit and/or Adopt-A-Stream Program staff that will include instructions on proper site access, sample collection and handling, and testing and analysis.
- Collect samples at multiple sites within the watershed to either 1) determine the most likely source(s) of impairment, or 2) better assess the effectiveness of BMPs in achieving their expected load reductions by sampling upstream and/or downstream of BMP installations.
- Apply Quality Assurance / Quality Control protocols for the duration of the monitoring project such as using a blank, taking samples in duplicate, and equipment calibration.
- Report testing results with each invoice¹ submitted (if collected); and, where appropriate, the data should also be accompanied by load reduction information based on a load reduction model such as STEPL or Region 5.
- Complete a Final Monitoring Report² for GA EPD review that compiles all data, notes, and information gathered on the conditions of the watershed. The Final Monitoring Report should be submitted in hardcopy format with the Final Project Closeout Report.

* Access at <http://georgiaadoptastream.com/db/manuals.asp>

¹ Invoices that include reimbursement for monitoring costs may not be paid until water quality data is received.

² If a watershed plan (of any type) is being completed as part of the project, the completed watershed plan will serve as the Final Monitoring Report.

Targeted / BMP Monitoring offers the opportunity to evaluate other pollutants or indicators in addition to the already-known impairments (listed or documented) addressed by specific BMPs. GA EPD should be consulted on a case-by-case basis to determine what additional monitoring would be appropriate for particular 319(h) BMP projects. Review the table below for examples:

BMP Project	Impairment(s) Addressed	Monitoring
Vegetated Buffer (Shading)	Dissolved Oxygen	Dissolved Oxygen Temperature
Streambank Restoration	Sediment	Turbidity or TSS Habitat Assessment
Septic System Replacement	Bacteria	E coli or Fecal Coliform Nutrients
Fence Livestock out of Stream	Bacteria	E coli or Fecal Coliform Settleable Solids
Alternate Water Source (Well)	pH	pH Conductivity