**[Insert Project Name, NFWF ID No., Grant Type. Complete Information in Document Header]**

 **QUALITY ASSURANCE PROJECT PLAN**

COMPLETED PLAN PREPARED BY:

**[Insert name here]**

**[Date]**

Refer correspondence to:

**[Name, organization, address, telephone, and email]**

*(Note to All Grantees: Instructions in this QAPP Template are given in bold, highlighted type. Make sure to complete or revise all sections and remove any underlining. Also, ERASE the instructions, including this one, as you complete the QAPP for your specific project. Make sure to define acronyms/ abbreviations when they initially appear in the text (i.e. mg/L, NTU, etc.). Make changes in other places as necessary. If a section is not applicable to your project, delete the template text, replace with “N/A”, and include an explanation regarding why the section is not applicable.)*

Please read the entirety of this document. Do not fill in information without reading the whole document. It is necessary to fully understand the contents of this Quality Assurance Project Plan (QAPP) in order to complete the required components successfully. Every QAPP will be unique and responsive to the proposal approved by NFWF. Please note that the QAPP is to be a stand-alone document.

qapp Approvals PAGE

Approval Signatures (required prior to project start):

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**[Insert Name]**

Project Lead, **[Insert Organization]**

**[Insert Title]**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**[Insert Name]**

**[Insert Role and Organization. Copy and add additional signatories as appropriate. Delete extra spacing so that signatories fit on this single page. This expedites the signatory process]**

**[Insert Title]**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lynn Dwyer

Program Director, Northeast Coastal
National Fish & Wildlife Foundation

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**[EPA Signatory – to be inserted by NFWF upon QAPP Approval]**

**[U.S. Environmental Protection Agency]**

**[Insert Title]**

**(WHEN DOCUMENT IS COMPLETE \_ RIGHT CLICK ON Table of Contents and ‘UPDATE FIELD” then “UPDATE ENTIRE TABLE”)**

1 PROJECT MANAGEMENT 5

1.1 Contact Information 5

1.2 Project Objectives and Approach 6

1.3 Data Quality Objectives 7

1.4 Quality Assurance Objective Criteria 8

1.5 Documentation and Records 9

2 DATA ACQUISITION 9

3 QUALITY CONTROL REQUIREMENTS 10

3.1 Measurement Performance Criteria 10

3.2 Internal Quality Control 11

4 DATA MANAGEMENT 11

4.1 Data Assessment Procedures 11

4.2 Data to be Included in QA Summary Reports 12

4.3 Reporting Format 12

5 DATA VERIFICATION AND USABILITY 13

5.1 Self-Assessment, Data System Audits 13

6 REFERENCES 13

Appendices 14

**[Verify numbering here and against text at completion of QAPP]**

# 1 PROJECT MANAGEMENT

## 1.1 Contact Information

[Please provide the name and phone number of project personnel as applicable. Include an Organization Chart if your project team is comprised of multiple project partners and/or more than five (5) team members. Only include project partners if they are involved in project activities discussed in the QAPP]

All personnel listed below in Table 1 will receive copies of this Quality Assurance Project Plan (QAPP), and any approved revisions of this plan. Once approved, this QAPP will be available to any interested party by requesting a copy from the project management.

**Table 1: Project Team Contact Information**

|  |  |  |
| --- | --- | --- |
| **Title** | **Name (Affiliation)** | **Phone Number/E-mail** |
| Project Manager |  |  |
| Stakeholder Team Lead |  |  |
| Environmental Scientist |  |  |
| National Fish and Wildlife Foundation (NFWF) Program Manager  | Lynn Dwyer, NFWF | Lynn.Dwyer@NFWF.org |
| QA Officer **[This person should not be involved in data collection. If title does not apply to anyone on the Project Team then add “ / QA Officer” after the Project Manager Title and delete this line]**  |  |  |

Describe the roles and responsibilities of key project team members. Key project team members would actively work on one or more phases of your project. If volunteers or students are part of the project team, summarize their role and reference to later sections of the QAPP that discuss training details (i.e., Section 1.5, 2.0). Include the names, duties, and responsibilities of all parties and/or groups involved in the key aspects of your project. Clarify the intended data user(s) for each data collection activity as applicable.

**[EXAMPLE ONLY – EDIT AS APPLICABLE TO YOUR PROJECT**

PROJECT MANAGER (Name) has the overall responsibility for ensuring that the project meets the project objectives and quality standards. The Project Manager will be the responsible for overseeing all activities conducted on this project including schedule adherence, budgeting, and oversight of all scope-related activities. Scope-related activities include assigning project tasks to personnel, data collection, data analysis, interpretation, communication, and final reporting. The Project Manager will also coordinate all program/project needs related to project personnel and convene periodic project-planning meetings

## Project Objectives and Approach

**[Insert your condensed proposal narrative here. Modify according to your project specific objective and address the following in this section:**

* Clearly state or list the objectives of your project and what the project is intended to accomplish.
* What methods/surveys/data collection activities will be implemented to achieve these objectives?
* What is the geographic scope for your project? Add a map of the project area as an Appendix and reference in this section. Please be sure that the map does not include sampling locations unless these locations are the focus of the interview, survey or workshops.
* Provide background to support the project objectives, including previous work/grants, team experience, and relevant context for your project.
* Discuss whether the project must comply with agency legislation, permits, comprehensive management plans, or organizational goals
* If applicable, discuss actions under different grants or regional programs that may have provided supporting framework or strategy for your project objectives.
* Discuss what type of interview, survey, workshop or meeting is being implemented for this project and why.
* Who are the targeted interviewees, stakeholders or survey recipients, who selects them, and how are they selected?
* How many interviews, meetings, or surveys will occur?

The objective of this document is to identify the quality assurance components that are necessary to implement the project activities under the **[Insert project name]**. This objective will be achieved by using the following methodology [**Specify methodology, survey type, or any other data collection activities associated with the project]**) to collect, assess and/or determine **[Insert information type. ex.: public opinion regarding green infrastructure installation in Baltimore, Maryland]**.

**[Briefly list/discuss the sites or project area to be evaluated as part of this project. Explain the process for site selection here or in section 1.3 if certain decision criteria were or will be applied to select sites for assessment. If sites or the project area are not selected yet, discuss the criteria you will use to choose project area/sites and why]**

The overall project timeline is [**Insert dates**]. [**Survey mailers/workshops**] will begin **[Insert start/stop dates for this activity. If timeline is not determined yet, discuss the potential timeline or that it will be determined at a later date.]**

**[If you are conducting a survey or focusing on specific constituents or parameters for the stakeholder interviews/workshops, please include them in Table 2 below. Otherwise, remove Table 2 and discuss or list the topics to be addressed by the interviews, workshops or surveys**]

Table 2 lists the constituents that are required to be evaluated or assessed through the project survey.

**[EXAMPLE ONLY – REMOVE OR EDIT AS APPLICABLE TO YOUR PROJECT**

Table 2 Constituents to be Evaluated

| **Constituent** | **Unit** |
| --- | --- |
| Vegetation | Type preference |
| Fencing | Color preference |
| Site Access | Private/Public/Limited |
| # of responses to survey |  |

**[Clarify whether volunteers, students, or other individuals that require training would be involved in data collection, assessment, survey, workshop or interview activities. Describe training for these individuals, as applicable, including methodology, timing, and primary responsibility for training.]**

## 1.3 Data Quality Objectives

**[READ THROUGH HIGHLIGHTED INSTRUCTIONS BEFORE COMPLETING]**

[Data quality objectives (DQOs) will define project data collection design, including

1) when and where to collect environmental data or information (if identified in section 1.2, state here and reference section 1.2),

2) the acceptable level of data uncertainty and decision errors for the study (also discussed in section 1.4),

3) number of assessments/interviews/workshops, why is this the appropriate study design to meet project objectives, and

4) why the information or data type you are collecting is appropriate to meet your project objectives.

5) Who is making these decisions, how, and when were they made?

Questions to consider when completing this section:

* How is the quality of your data/information being ensured? Examples may include
	+ an explanation of the experience of the project team,
	+ proper training and oversight of data collectors or meeting facilitators,
	+ adherence to accepted methods and protocols to achieve project objectives, including survey design and interview protocols, or
	+ using lessons learned from successful past projects that were similar to this project design, providing a summary of past projects.
* How was geographic scope selected for this project? (May be discussed in section 1.2 and referenced to here or vice versa – but MUST be discussed in one of the sections and reference to in the other)
	+ Why is the geographic scope or sites for evaluation or assessment appropriate to achieve the project objectives?
	+ What was the decision criteria to select geographic scope or sites for evaluation or assessment (if discussed in section 1.2, reference to that here or vice versa – but MUST be discussed in one of the sections and reference to in the other)? Who made these decisions and when?
* Why was the data being collected chosen to address the project objectives and what information will it be providing?
* If the data is not collected as planned, how will that affect the project/project objectives?
* Describe approach for analyzing survey data if applicable, including formulas, calculations, units, definitions of terms, and statistical analysis, will be included and defined
* What was the decision criteria to select interviewees, workshop attendees or survey recipients?
* Decision criteria for software/application used for surveys or respondent evaluation, if applicable
* What is the acceptable number of interviews or attendees to a workshop to meet the project objectives?
* Why is the interview, workshop or survey format (structure, length, type of questions, etc.) the most appropriate to meet project objectives?
* Who is making these decisions, how, and when were they made?
* What types of questions will be asked during the interview, workshop, or as part of the survey? Attach questions as an appendix and reference here or provide examples of potential questions.]

**MAIN THEME FOR THIS SECTION and SECTION 1.4: When completed, these sections will identify the required information and criteria which will support developing quality data collection designs or processes. These sections should discuss how the project will ensure that the type, quantity, and quality of environmental data/information used in decision-making will be appropriate for the intended application. It should help the reader understand why this data/information provides the material necessary to answer study questions and meet project objectives.]**

## 1.4 Quality Assurance Objective Criteria

The Quality Assurance Objectives (QAOs) define a tolerable level of potential decision error for data collected on a project. They help to define the DQOs and clarify the project objectives further. The QAOs are then used as comparison criteria during data quality review by [explain the group that is responsible for collecting data] to determine if the minimum requirements have been met and the data may be used as planned.

[This section specifically outlines the range of information would be acceptable for use on your project.

* How will the project team know data collected from interviews, surveys, or during workshops are “fit for use” on the project and not an error or unacceptable for reporting? Discussion must support text in sections 1.3, 3.0 and 4.0
* What is the decision criteria to select data collected frominterviews, surveys, or during workshops for use based on the project objectives?

What are the potential limitations of data being used for this project? If applicable, specify acceptance criteria for survey results

What data quality indicators will be used to qualify the survey, workshop or interview data as acceptable or not?

* How will it be determined that the results satisfy the purpose of the project?

For interviews/surveys

* Who will review the questions to make sure they are clear, unbiased, and objective?
* What is the acceptable/expected rate of return for surveys and why?
* Is there a contingency plan if the surveys have a low response rate?
* What margin of error would be acceptable for survey responses and why?

For interviews/workshops

* What information will participants be given ahead of the workshop or interview?
* What are the qualifiers for accepting information to support the project objectives from interviews or workshop participants? Does information need to be
	+ geographically relevant to a specific area?
	+ in compliance with a management plan or legislative requirements?
	+ representative of a specific timeframe?
	+ other requirements for using information gathered from workshop participants?

**If all data collected via interviews, surveys or during workshops will be accepted for use on the project, then add an explanation regarding why this is appropriate. Note that this section must support text in sections 1.3, 3.0 and 4.0.]**

## 1.5 Documentation and Records

**[Include the following in this section:**

* Description of Staff/Volunteer/Intern/Student Training documentation and records as applicable.
* Explain how data and information will be transferred between project partners (ex. secure file share).
* Describe or list reports to be prepared as part of this project, including information to media outlets or government agencies, and how reports or media would be distributed. If no reports or media will be developed as part of this project then clarify here.**]**

All records generated by this project will be stored at **[Insert name here**] main office. Copies of this QAPP will be distributed to all parties involved with the project, including signatories and the data acquisition team. Any future changes or amendments to the QAPP will be held and distributed in the same fashion. Copies of previous versions of the QAPP will be clearly marked as “superseded by Revision #” so as not to create confusion.

The records of all project information and data used to complete the activities of the project will be retained for at least seven years from the date of data acquisition, report, or application.

# 2 DATA ACQUISITION

[**Edit as applicable to your project. Describe data collection staff and staff training if not described in Section 1]**

**[**Discuss which team members participate in interview or survey design/mailing/assessment or workshops. Explain source of contact information for interviewees, workshop participants, or survey recipients and who mails surveys or invites interview/workshop participants. Append interview protocol, survey or meeting agenda and reference here

**For surveys**

* Explain how surveys are prepared for sending and how they are sent (email, hard copy, etc.) Is any information provided to recipients other than the survey? Explain source of information and reason for inclusion.
* If surveys are sent, accessed, or processed using a specific program, state the program and version used for this project.
* Who receives completed/returned surveys and how are they stored for analysis? Are the surveys labeled in a project-specific manner upon receipt?
* What is the timeframe for receiving surveys (e.g. surveys received 2 months after mailer will not be accepted)?

**For workshops/interviews**

* Discuss and append or reference any information given to interviewees/workshop participants ahead of time. Explain the purpose of providing this information.
* Describe interview/workshop structure, facilitators/lead interviewers, and how long the interview/workshop will be.
* Discuss any post-workshop/interview data collection activities (e.g. follow-up surveys, individual interviews, etc.]

DATA COLLECTION AND DOCUMENTATION PROCEDURES

All [**Survey/Interview/Workshop**] activities will be adequately and consistently documented [**describe how adequacy and consistency in documentation will be confirmed**] to ensure defensibility of any data used for decision-making, as described in section **[insert section where this is discussed**] and to support data interpretation.

**For survey projects, address the following:**

* What will happen to completed surveys when received, either through the mail or online? If mailer surveys would be transferred to an electronic form, please clarify here.
* How will information be filed for data analysis and QA review?
* When will this occur post-survey receipt?
* Who is responsible for filing and documenting surveys upon receipt?
* Discuss use of software/applications for survey response processing, if applicable.

**For stakeholder workshops/interviews address the following:**

* Will a professional transcriber be hired to record meeting minutes/interviews, or will members of the project team be assigned to take notes? What are the procedures for taking notes, if any?
* How many note-takers will be involved in the workshop or interview and why is this number adequate to ensure quality for this process?
* If the interview/workshop will take place over several hours, or will include a large number of participants, how will the project team ensure notetaking is accurate and all relevant information (as discussed in sections 1.3 and 1.4) is captured?
* Is any training required for project team members to take notes?
* Will notes be recorded by hand, on white boards by the facilitator, or electronically?
* Will the workshop/interview be recorded? If so, when will the recording be viewed and notes transcribed?
* What happens to the notes after the workshop/interview is over? How are the meeting notes processed for data analysis and QA review? When does this occur and who is responsible for this activity?]

# 3 QUALITY CONTROL REQUIREMENTS

**[Edit as needed to be project-specific]**

## 3.1 Measurement Performance Criteria

The overall QA objective for this project is to develop and implement procedures for data collection and reporting that will provide results that are scientifically defensible. Specific procedures for reporting of data, internal QC, audits, and corrective action are described in the other sections of this QAPP [**Please elaborate on or revise this section as appropriate to your project.]**

## 3.2 Internal Quality Control

Internal QC is achieved by review of the [**Interview notes/synopsis/survey results**] by the QA/QC Specialist **[or insert title from Section 1.0.]** to ensure that results are within the specified QC objectives discussed in sections 1.3 and 1.4 [**be sure QC objectives are defined in sections 1.3 and 1.4**]. The internal QC components of a data collection and analyses program will ensure that the data of known quality are produced and documented. **[**Discuss timing and process for QA/QC review of information once it is transcribed from the surveys or interview/workshop notes to a database or other online filing system. Who from the project team would do this and when? How will interview/workshop notes or survey results be evaluated and tallied? What is the process for ensuring accuracy of notes? Describe how problems will be resolved, including chain-of-command, and documentation process. Include examples of types of corrective actions that might be implemented (e.g., access other data sources, loosen or tighten acceptance criteria)]

# 4 DATA MANAGEMENT

[**Elaborate on this process or revise as appropriate]**

Copies of **[meeting notes/survey responses]**, original preliminary and final reports, and electronic media reports will be kept for review by the **[Insert organization name].**

**[Meeting notes/survey responses/assessments/synopsis]** are checked and signed by the project **[Insert “leader”, “manager”, etc.]**. They will identify any results where information is incorrect, missing, or inadequate [**what would identify a response as “inadequate”?**]. Such data will be marked as unacceptable by and will not be entered into the electronic data base and/or otherwise used for project analysis, reporting or other purpose. **[**Clarify if this process applies to your project. Include the timeframe for completing this check, post-data collection and whether there would be a need to repeat surveys/meetings/interviews and/or re-train data collectors if results are unacceptable. For interview or workshop notes, would the notes be sent to interviewees/workshop attendees for review? Why or why not? If consensus is required by the project team for decision-making, explain the consensus process here]

The data generated will be converted to a standard database format [**revise to be accurate to your projec**t] maintained by **[who will be responsible for data entry and management?]** and available for NFWF staff review when requested. This review is for QA/QC purposes only and will not be used for any other purpose. All project information will remain confidential. See Section 4.2 for additional information on this data reporting requirement.

After data entry or data transfer procedures are completed for each [**insert type of data collection event**], data will be inspected for data transcription errors [**how long after data collection and by whom? How are errors determined (reference sections 1.3-1.4)? What happens to data found to have errors?],** After the final QA checks for errors are completed, the data will be added to the project database. [**Specify who would do this and the timeframe, post-data collection. Describe how data will be used for reporting as applicable]**.

## 4.1 Data Assessment Procedures

Data must be consistently assessed and documented to determine whether project QAOs discussed in section 1.4 have been met, quantitatively assess data quality and identify potential limitations on data use. Assessment and compliance with quality control procedures will be undertaken during the data collection phase of the project. [**Reiterate, describe or reference the QC procedures for this project]**.

## 4.2 Data to be Included in QA Summary Reports

During the project, NFWF may require periodic reporting, as noted below. Table 3 summarizes the types of data to be reported and the method in which that information will be delivered to NFWF staff.

**[Remove lines not applicable to your project (e.g. remove the line for BMPs if you are not using). Please be sure this table matches the table in Appendix D]**

|  |
| --- |
| **Table 3: QA Summary Reporting Data** |
| Data | Data Description | Reporting Method | Frequency |
| Best Management Practice (BMP) Data | Raw data from project reports in units of miles, linear feet, acres, individuals, etc. | Metrics uploaded to NFWF online system. | Annually and at NFWF Request during the closeout procedure |
| Monitoring Data | Raw data on project effectiveness, ambient water quality in priority watershed, stormwater flow, project conclusion data, etc. | Raw data, reports, and/or spreadsheets submitted through NFWF online system through the Final Programmatic Report. | At NFWF Request during the closeout procedure |
| Geospatial Data | Google polygon maps, latitude/longitude info, watershed segment | Uploaded via NFWF online system map page | At NFWF Request at application, during any Map Update Tasks, and during the closeout procedure |

At project completion, the data collection team will provide copies of the [**interview/workshop notes/survey responses**]. At a minimum, information must be provided to NFWF staff according to the QA Summary Report template, included as Appendix D.

## 4.3 Reporting Format

All results meeting data quality objectives and results having satisfactory explanations for deviations from objectives will be reported in the QA Summary Report. Results will be reported to NFWF at project completion as noted in Section 4.2 above. Reports may be submitted electronically along with the final programmatic report.

# 5 DATA VERIFICATION AND USABILITY

## 5.1 Self-Assessment, Data System Audits

**(DO NOT EDIT - THIS SECTION MUST REMAIN AS IS)**

Periodic self-assessments and/or data system audits are implemented based on the nature and scope of project-specific data collection activities. For data users, these technical audits and assessments provide project personnel with a tool to determine whether data collection activities are being or have been implemented as planned. They also provide the basis for taking action to correct any deficiencies that are discovered. For QAPP Categories 1-2, NFWF may request periodic self-assessments or a data system audit. For QAPP Categories 3-4, NFWF requires the implementation of one of these tools. The decision is made by the project manager and based on the frequency of project-specific data activities.

# 6 REFERENCES

**[EXAMPLE ONLY] [Edit as applicable to your project and remove example references below not used for this project. Be sure all references listed in this section are cited in the main body text of the QAPP]**

U.S. EPA 2001. Laboratory Documentation Requirements for Data Evaluation (R9QA/004.1)

U.S. EPA 1983. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020, third edition

U.S. EPA 1988. Methods for Determination of Organic Compounds in Drinking Water (EPA-600/4-88/039)

EPA/600/R-99/080 2000. Guidance on Technical Audits and Related Assessments for Environmental Data Operations

# Appendices

A) Project Geographic Scope Map(s)

1. Meeting Agenda
2. Survey Protocol
3. QA Summary Report

APPENDIX D – At Project Close Out

[Insert Project Name]

QA Summary Report - Components

This project resulted in **[Insert deliverable description]**. This work product received the required nature and scope of QAPP oversight appropriate for the intended use of the data.

The data sets, data products and other supporting QA documentation is/are maintained on file with the assigned research staff as noted in the QAPP until **[Insert date].**

All QAPP elements were met and completed according to the procedures and methods outlined therein.

**NFWF QA Summary Reports will be submitted to NFWF annually and at project completion as requested. The QA Summary reports will include the following information, as appropriate –**

1. QA Summary Closeout reports include the extent to which projects are implemented according to the stated scope of work and the methodologies specified in this QAPP in their final programmatic reports.
2. Significant changes to the objective, scope, or methodology of environmental data collection or use of environmental technology require the review and approval of the NFWF Program Manager and the NFWF QA reviewer. Therefore, if needed, appropriate revisions to this QAPP will be completed and submitted to the NFWF Program Manager for review and approval prior to implementation of changes.
3. Additionally, periodic QA Summary Reports will be submitted to NFWF annually, if requested, according to the table, below.

**The following table summarizes the types of data to be reported and the method in which that information will be delivered to NFWF staff.**

|  |  |  |  |
| --- | --- | --- | --- |
| Data | Data Description | Reporting Method | Frequency |
| Best Management Practice (BMP) Data | Raw data from project reports in units of miles, linear feet, acres, individuals, etc. | Metrics uploaded to NFWF online system. | Annually and at NFWF Request during the closeout procedure |
| Monitoring Data | Raw data on project effectiveness, ambient water quality in priority watershed, stormwater flow, project conclusion data, etc. | Raw data, reports, and/or spreadsheets submitted through NFWF online system through the Final Programmatic Report. | At NFWF Request during the closeout procedure |
| Geospatial Data | Google polygon maps, latitude/longitude info, watershed segment | Uploaded via NFWF online system map page | At NFWF Request at application, during any Map Update Tasks, and during the closeout procedure |