USEPA Great Lakes National Program Office

Great Lakes Restoration Initiative Environmental Accomplishments in the Great Lakes 2 Implementation Manual

Data Management and Quality Assurance

9-29-2021

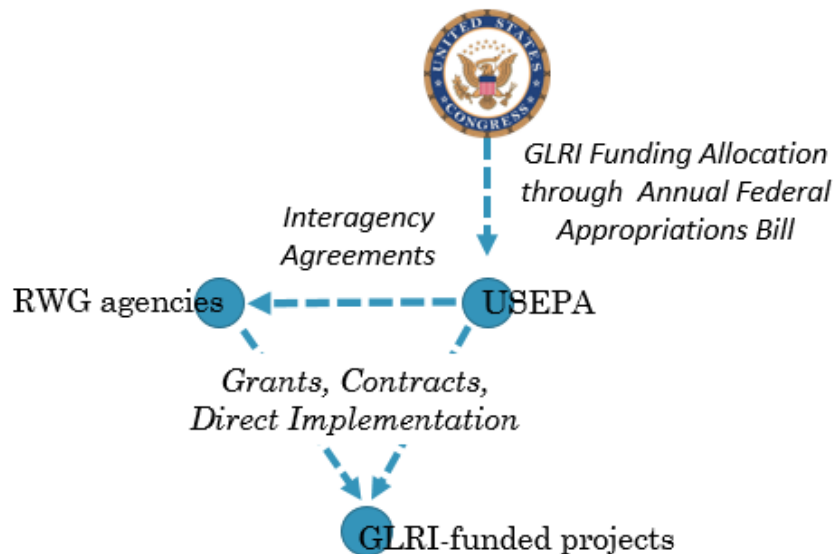# Data Management and Quality Assurance

Contents

A. Introduction

A.i. Great Lakes Restoration Initiative Funding Framework

GLRI Funding Framework

Regional Working Group (RWG) agencies work together collaboratively to plan projects that meet Great Lakes' environmental needs and Great Lakes Restoration Initiative (GLRI) program goals as identified in GLRI Action Plans. Since fiscal year 2010, the United States Congress has allocated funding for the Great Lakes Restoration Initiative through annual federal appropriation bills. Following appropriation, RWG Agencies obligate this funding for programs, projects, or activities (collectively referred to as "GLRI-funded projects") that support the GLRI.

GLRI authorization for interagency agreements was enacted in legislation in 2015 and 2016 that amended Clean Water Action Section 118. Prior to that, authorization for GLRI interagency agreements was done through EPA's annual appropriation bills. The GLRI authorization supports the use of either the Clean Water Act or the RWG Agencies' existing federal authorities to implement GLRI-funded projects.

RWG agencies use a variety of mechanisms to obligate the funding provided through these interagency agreements for the implementation of GLRI-funded projects. Some GLRI-funded projects are directly implemented using agency staff. Others are implemented through contracts, grants, or other interagency agreements.

A.ii. Environmental Accomplishments in the Great Lakes 2 Reporting Framework
The Environmental Accomplishments in the Great Lakes (EAGL 2) reporting framework, including the delineation of EAGL 2 reporting roles and responsibilities and the EAGL 2 website structure, is derived from the GLRI funding framework. The RWG Agencies that directly implement GLRI-funded projects or issue the grants, contracts, or interagency agreements to implement GLRI-funded projects are responsible for reporting into the EAGL 2 information

system. These RWG Agencies are the **data owners** of results achieved by their GLRI-funded projects under their GLRI interagency agreements. As the chair of both the Interagency Task Force and the Regional Working Group, EPA coordinates activities of the GLRI, including reporting pursuant to congressional requirements and Action Plan commitments. As the entity requesting the data and reporting results, EPA is the **data system sponsor**.

B. Roles and Responsibilities

B.i. Data System Sponsor:
- EPA, as coordinated by Great Lakes Nation Program Office (GLNPO) staff

GLNPO Reporting Coordinator

- Transmits general communications regarding EAGL 2 reporting to RWG Agency Data Contacts, copying RWG Members.
- Coordinates data transformation processes for final reporting purposes.
- Ensures GLRI final reporting obligations are fulfilled. Final reporting includes:
  - o Annual Report to Congress.
  - o Semiannual updates to the project lists and the project map on GLRI.us.
- Promotes consistency in reporting across the EAGL 2 Information System.

EPA Measure Leads

For their respective Measure(s) of Progress, each EPA Measure Lead:

- Authors and keeps up-to-date a definition of progress in the Measures Reporting Plan;
- Conducts data transformation processes for final reporting of data submitted to the EAGL 2 Information System;
- Coordinates the resolution of data reporting discrepancies identified through the course of data transformation processes; and
- Identifies and resolves data collection needs for fulfilling final reporting obligations.

GLNPO Immediate Office

- Conducts periodic audits of data submitted to the EAGL 2 Information System by all RWG Agencies.

EAGL 2 System Administrator

- Manages the EAGL 2 Information System website and thus:
  - o Makes updates to the EAGL 2 information system for changes to the GLRI and to reporting procedures and requirements that affect site elements;
  - o Manages user accounts, permissions, access, and security.
  - o Monitors and ensures that servers supporting the EAGL 2 information system are functioning properly and up-to-date, as necessary.
  - o Monitors and ensures that necessary software and hardware supporting the EAGL 2 Information System are functioning properly and up-to-date, as necessary.

- Hosts regular training webinars to inform RWG Agency Data Contacts of changes made since the preceding EAGL 2 Data Call that affect reporting procedures and requirements.
- Facilitates training to assist RWG Agency Data Contacts with issues pertaining to particular data elements or focus areas as needed or requested.
- Oversees the process of submitting data into the EAGL 2 Information System.
- Extracts data from EAGL 2 to facilitate data transformation processes and system-wide audits.
- Extracts data from EAGL 2 responsive to information requests.
- Facilitates the transfer of information for updates to GLRI.us.
- Archives data submitted to EAGL 2 for short-term and long-term storage.

B.ii. Data Owners
<u>RWG Agencies</u>

- Develop internal procedures to ensure that data entered into EAGL 2 is accurate, current, complete, and consistent with EAGL 2 reporting guidance, including the storage and maintenance of documentation that support results.
- Ensure data entry is timely completed and submitted in EAGL2 on a semiannual basis in accordance with reporting deadlines.
- Upload supporting documentation in EAGL 2 at the time results are entered.
- Conduct periodic internal audits on data the RWG Agency has submitted to the EAGL 2 Information System.

<u>RWG Agency Data Reviewers and RWG Agency Data Contacts</u>

- Serve as the point-of-contact of their representative RWG Agency for EAGL 2 Data System Sponsors.
- Coordinate RWG Agency activities to fulfill their EAGL 2 reporting obligations as listed above.
- Stay informed of reporting guidelines by reading EAGL 2 reporting guidance, noting changes to EAGL 2 (including system changes, data needs, reporting guidance, etc.), and remaining receptive to communications from EAGL 2 Data System Sponsors.
- Submit their representative RWG Agency's completed information in accordance with reporting guidelines, including semi-annual project information and annual project results.
- RWG Agency Data Reviewers provide an independent check of the information submitted by RWG Agency Data Contacts.
- Notify the GLNPO System Administrator and Reporting Coordinator of any previous data reporting discrepancies.

C. EAGL 2 Data Entry

C.i. Overview

The EAGL 2 Information System is a web-based database. The general site structure consists of a single EAGL 2 homepage from which RWG agencies can access the EAGL 2 database for data entry.

RWG agencies enter data directly into the EAGL 2 database. On a semiannual basis, the EAGL 2 System Administrator issues a call for each RWG agency to enter their GLRI project data. Broadly, each RWG agency's EAGL 2 data entries are comprised of records of all GLRI-funded projects to which the RWG Agency has obligated funding, and the result(s) achieved respective to each record for GLRI Action Plan (I, II, or III) Measures of Progress.

As the data owners, the RWG Agencies, via their Data Reviewers and Data Contacts, are responsible for entering their own data into the EAGL 2 Information System and ensuring the information they submit is current, complete, accurate, and is consistent with EAGL 2 reporting guidance, including the most current version of the Measures Reporting Plan available at the time of data entry (see RWG Sharepoint EAGL page). RWG Agency Data Reviewers notify the System Administrator and Reporting Coordinator when their submission is complete.

C.ii. Access

User accounts, permissions, access and security are managed by the EAGL 2 System Administrator. The EAGL 2 System Administrator assigns Read and Edit permissions to RWG Agency Data Contacts' EAGL 2 user accounts via GLNPO's external network (glnpo.net). RWG Project Officers, Data Contacts and Data Reviewers are the only EAGL 2 users from their Agency able to enter their Agency's project information into the system.

Accessing EAGL 2

Users with an EAGL 2 account may access EAGL 2 online in two ways:

1) EAGL 2 can be accessed directly by visiting and logging in to https://share.glnpo.net/sites/EAGL 2.
2) EAGL 2 can be accessed by visiting and logging in to the Great Lakes Restoration Initiative Portal at https://login.glnpo.net and clicking the link to "Environmental Accomplishments in the Great Lakes (EAGL 2)".

Requesting an Account

Staff from RWG Agencies may request an EAGL 2 user account by completing the Great Lakes Restoration Initiative Portal Account Request form, accessible online at http://apply.glnpo.net/useraccount.html. The form requests users to provide the following information:

- First Name
- Last name
- Organization (selected from a drop-down list)
- Email Address
- Phone number

EAGL 2 user account requests are screened by the EAGL 2 System Administrator and only granted by the System Administrator when the organization and email address associated with the request are consistent and correspond with an RWG Agency.

After the EAGL 2 System Administrator grants an account request, the user receives an email that contains a username and temporary password. The user is directed to access the Great Lakes Portal at https://login.glnpo.net to change the temporary password to a user-generated password. As per EPA IT policy, the password expires every 60 days. Users are notified via email to change their password when the expiration date is approaching.

C.iii. Account Management

Access to the EAGL 2 information system is limited to members of RWG agencies and their designated RWG Agency Data Reviewers and Data Contacts. The GLNPO Reporting Coordinator maintains an e-mail listing of RWG Agency Data Contacts that is updated following notification by RWG agencies and provided to the EAGL 2 System Administrator when it is revised. The EAGL 2 System Administrator disables accounts for users who no longer represent their agency.

User Account Permissions

The EAGL 2 System Administrator assigns user account permissions at the time when an EAGL 2 user account request is granted. There are 2 types of permissions the System Administrator may grant to a user account:

- Edit permissions means a user with this permission can submit project information and results to the EAGL 2 database.
- Read permissions means a user with this permission can download and view data entries and reports from the EAGL 2 database.

Read permissions are granted to all users for their agency's EAGL 2 data. However, edit permissions are only granted to users designated by their RWG Agency, as described in the Organization field and confirmed by the Email Address field in the Great Lakes Restoration Initiative Portal Account Request form.

C.iv. Reporting

Reporting Schedule

EAGL 2 reporting generally operates on the following schedule:

EAGL 2 Data Call:	Mid-Year (Project Information)	End-Of-Year (Project Information and Results)
Data Call Initiated:	3/31	9/30
Data entry completed by Data Contacts:	5 weeks after Data Call Initiated	7 weeks after Data Call Initiated
Agency Data Review complete. Reporting Concluded:	7 weeks after Data Call Initiated	9 weeks after Data Call Initiated

Data Transformation Completed:	2 weeks after Agency Data Review complete

EAGL 2 Data Call

RWG agencies report into the EAGL 2 Information System semiannually during EAGL 2 Data Calls. The EAGL 2 Data Call refers to the length of time that EAGL 2 is open for RWG agencies to access, complete and submit their project information and results. The semiannual Data Calls are at mid-year, for identifying new projects identified through March 31st, and end-of-year, for identifying new projects and reporting status and results, identified in the October 1st through September 30th reporting period. Reviewers from each RWG agency are expected to review and approve their Agency's EAGL 2 data entries by the end of each Data Call.

Data Call Responsibilities

RWG Project Officers, Agency Data Contacts, and Data Reviewers are responsible for entering and/or reviewing the applicable project information into the EAGL 2 Information System before the conclusion of each Data Call. Such responsibilities include completing project entries into EAGL 2 for each reporting cycle including identification of new projects and reporting status and results.

RWG Project Officers, Agency Data Contacts and Data Reviewers are the points-of-contact for data system sponsors (represented by the GLNPO Reporting Coordinator, the EAGL 2 System Administrator, and the EPA Measure Leads) to disseminate information significant to RWG Agencies for completing their EAGL 2 reporting. This information includes reporting deadlines, reporting instructions, contact information of data system sponsors, and notices regarding access and updates to reporting guidance such as EAGL 2 Training Webinars, the Measures Reporting Plan, Data Entry Guidance, and any other such reference materials. Data system sponsors communicate this information to the RWG Project Officers, Agency Data Contacts and Data Reviewers so that the Data Contacts and Data Reviewers will disseminate this information to their RWG Agency's staff, as necessary, in order that the Data Contacts can enter project information into the EAGL 2 Information System and Data Reviewers can independently verify that information.

RWG Agency Data Contacts and Data Reviewers are generally the Agency members initiating and coordinating key Agency staff persons to complete data entry into the Agency's EAGL 2 Information System. Organizational structure, use of GLRI funding, and scope of EAGL 2 reporting obligations vary amongst RWG Agencies, and so internal Agency processes for completing EAGL 2 data entry vary accordingly.

RWG Agency Data Reviewers provide an independent check of the information entered by Data Contacts. The Data Reviewer for a project is a different person than the Data Contact for that project. RWG Agencies are responsible for developing and documenting their procedures that ensure that data entered into the EAGL 2 Information System is current, complete, accurate, and consistent with EAGL 2 reporting guidance.

<u>Reporting Initiated</u>

The Mid-Year Data Call is initiated annually on the final business day of the first half of the fiscal year (generally March 31). The End-of-Year Data call is initiated annually on the final business day of the fiscal year (generally September 30).

To initiate the Data Call, the GLNPO Reporting Coordinator transmits a Data Call initiation email to designated RWG Data Contacts, copying the RWG, notifying them that the Data Call has begun, and that the RWG Agency Data Contacts are to enter their respective EAGL 2 information.

- At both mid-year and end-of-year, that information includes Agency, Recipient, Funding amounts, Project Title, Project Description, Start and End dates, applicable Measures, Expected Results, Keywords, and Location.
- At end-of-year, that information also includes project status, annual results, and supporting documentation for the results.

<u>Data Call Concluded</u>

The Data Call is generally concluded 7 weeks after the Data Call is initiated. During this time each agency reviews and approves the data they enter. The Data Call conclusion date is the final day for RWG agencies to enter their information in EAGL 2.

The Data Call conclusion date is communicated to RWG agencies and the RWG Data Contacts: through the EAGL 2 website, where it is accessible to EAGL 2 information system users year-round; in the Data Call initiation email transmitted by the GLNPO Reporting Coordinator to the RWG Data Contacts; in EAGL 2 data entry training webinars for RWG Agencies hosted by the EAGL 2 System Administrator; and in periodic e-mails transmitted during the Data Call by the GLNPO Reporting Coordinator.

<u>Data Transformation</u>

After the conclusion of the Data Call, each RWG agency is expected to have entered and reviewed all of their requested information in EAGL 2. The GLNPO Reporting Coordinator works with the EAGL 2 System Administrator and EPA Measure Leads to transform the data submitted into EAGL 2 by RWG agencies for final reporting purposes. After data transformation processes are concluded, transformed final data are posted to an EAGL 2 "Final Results" subsite. Final data are used to fulfill GLRI final reporting obligations.

Data transformation processes are dependent on accurate, complete, current, and consistent data entry by RWG agencies. In the instance that one or more RWG agencies enter their EAGL 2 information after the Data Call conclusion date or need to enter revised data to correct errors after the Data Call conclusion date, data transformation processes may extend beyond two weeks after the conclusion of the Data Call.

C.v. No Submission, Late Submission, and Data Correction Processes
<u>Late submission</u>

RWG Agency Data Contacts are responsible for notifying the GLNPO Reporting Coordinator and EAGL 2 System Administrator five days in advance of the Data Conclusion Date if their agency will be submitting their information beyond the Data Call conclusion date and providing an estimated late submission date. Upon completing data entry of their RWG Agency's information into the EAGL 2 information system, the RWG Agency Data Contact is responsible for notifying the GLNPO System Administrator and the GLNPO Reporting Coordinator. Data transformation processes may proceed after the RWG Agency Data Contact gives such notice.

No submission

If an RWG Agency Data Contact fails to save and submit its information before the Data Call is concluded and has not provided a late entry notification, the GLNPO System Administrator will contact them to ascertain reasons for the omission and determine when data entry will be made.

If the omission is because there is no progress or projects to report, the Data Contact will save and submit unaltered project entries in EAGL 2 as confirmation and the Data Reviewer will then submit applicable entries. Upon that submission, the Last Reviewed field in EAGL2 will indicate a new date, thus indicating that the RWG agency has completed their review. Data transformation processes may proceed after the RWG Data Reviewer gives notice that the RWG Agency's EAGL 2 project entries are complete in EAGL 2.

If progress or projects should have been reported, the RWG Agency Data Reviewer will provide a late submission due date and will subsequently notify the GLNPO System Administrator and the GLNPO Reporting Coordinator when their data entry has been completed in EAGL 2. Data transformation processes may proceed after such notice.

If progress or projects have not been reported or verified by the RWG Agency Data Reviewer in time for data transformation before public reporting, they shall be included in the next reporting period for which they can be so reported and verified as described below in the Data Correction section.

Data Correction

Promptly upon identification of a data entry error, the individual (whether from EPA or another RWG agency) identifying the error shall notify the GLNPO Reporting Coordinator and System Administrator and applicable Data Contacts and Measure Leads. Thereafter, the Agency Data Reviewer shall promptly: (i) identify the reason for the error, (ii) provide an estimated re-submission date, (iii) provide a data correction to the System Administrator, and (iv) notify all parties when the correction has been provided. Data transformation processes may proceed after such notice. Procedures for data correction vary based on when the error is discovered and what needs correction:

- If a correction is made before the Data Call Conclusion, the Data Contact updates their data entry and the Data Reviewer confirms the correction through a separate entry.
- Corrections made during the Data Transformation process may be done by the Data Contact, Data Reviewer, or System Administrator as applicable if approved by the applicable Measure Lead.

- Corrections made after Data Transformation are generally made by a positive or negative adjustment by the System Administrator in the next succeeding reporting period after an error and correction are identified. If appropriate, other means of corrections may be done in consultation with the GLNPO Reporting Coordinator. The System Administrator shall include an explanation of any such other corrections in EAGL2.

<u>Prolonged or Consistent Failure to Submit EAGL 2 Information</u>

The applicable EPA Measure Lead(s) and/or the EAGL 2 System Administrator will notify GLNPO management of prolonged or consistent failures to submit EAGL 2 Information. RWG Agencies will cooperate with EPA to resolve data entry issues.

C.vi. EAGL 2 Information System Codes
EAGL 2 Information System entries use the following file codes:

[Department Acronym]-[RWG Agency Acronym]-FY[Last 2 Digits of Fiscal Year]-[Q2 or EndofFY]

This core string identifies the applicable RWG Agency and the fiscal year of the applicable period. Any addition or modifier to the string is for EPA's or the reporting RWG Agency's internal tracking purposes.

[Department Acronym]-[RWG Agency Acronym]

- Denotes the RWG agency that is the data owner of the applicable data entry

FY[Last 2 Digits of Fiscal Year]

- Denotes the fiscal year of the semiannual period for data entry

[Q2 or EndofFY]

- Denotes the semiannual period of the fiscal year for data entry

Example: DOI-USGS-FY20-Q2

- DOI-USGS: Indicates that the United States Geological Survey of the Department of the Interior is the owner of the respective EAGL 2 data
- FY20-Q2: Indicates that the EAGL2 data is updated through March 31st of fiscal year 2020.

U.S. Federal Executive Department	RWG Agency	[Department Acronym]-[RWG Agency Acronym]-
Department of Homeland Security	United States Coast Guard	DHS-USCG
Department of Commerce	National Oceanic and Atmospheric Administration	DOC-NOAA

Department of Defense	United States Army Corps of Engineers	DOD-USACE
Department of the Interior	United States Geological Survey	DOI-USGS
	National Parks Service	DOI-NPS
	Bureau of Indian Affairs	DOI-BIA
	United States Fish and Wildlife Service	DOI-USFWS
Department of Transportation	Federal Highway Administration	DOT-FHWA
	Maritime Administration	DOT-MARAD
Human Health Services	Agency for Toxic Substances and Disease Registry	HHS-ATSDR
	Centers for Disease Control and Prevention	HHS-CDC
United States Department of Agriculture	Animal and Plant Health Inspection Service	USDA-APHIS
	Natural Resources Conservation Service	USDA-NRCS
	United States Forest Service	USDA-USFS
United States Environmental Protection Agency*	United States Environmental Protection Agency	USEPA

*USEPA is a Cabinet-rank agency and is not an operating unit in any U.S. federal executive department

Fiscal Year	Calendar Year Dates (MM/DD/YYYY)	FY[Last 2 Digits of Fiscal Year]-
2020	10/01/2019 – 09/30/2020	20
2021	10/01/2020 – 09/30/2021	21
2022	10/01/2021 – 09/20/2022	22
2023	10/01/2022 – 09/30/2023	23
2024	10/01/2023– 09/30/2024	24

Semiannual Data Call of Fiscal Year	Dates (MM/DD)	[Q2 or EndofFY]
Mid Year	10/01 – 03/31	Q2
End of Fiscal Year	04/01 – 09/30	EndofFY

Metadata

EAGL 2 tracks metadata for data entries. This metadata is system-generated and cannot be overridden by EAGL 2 users.

- Modified Date. This field tracks the date (Month DD, YYYY) that a project was last modified.
- Modified By. This field tracks the username of the person who last modified the project.
- Created Date. This field tracks the date and time the project was created and saved.
- Created By. This field tracks the username associated with the user account that created and saved the project.

C.v.ii. Structure for EAGL 2 Information System Data Entry

For a given EAGL 2 Data Call, RWG Project Officers and Agency Data Contacts enter data into the EAGL 2 Information System by logging into the EAGL2 system and either updating existing projects or creating new projects as necessary. Details of using the system are available semi-annually in webinars, the EAGL2 User's manual and in other help materials on the EAGL2 Resources SharePoint site (available from the EAGL2 system.

Each Agency's Data Reviewers review and affirm this data within the EAGL 2 Information System. Thus, at the highest level, EAGL 2 Information System data entries are classified by RWG Agency, and then by the Data Call through which the data within is updated. This information is directly entered into the EAGL 2 Information System.

Definitions for each data field are provided in detail in Data Entry Guidance.

C.viii. EAGL 2 Information System Data Fields

Data fields in EAGL 2 Information System may be classified as follows in the table below:

Data Field*	Requirement Level		Data Purpose				Final Reporting Destination		
	Required	Where Applicable	Project Identification	Program Management	Project Results	Supplemental Project Results	GLRI.us	Briefings and analysis	Report to Congress
Funder	x		x				x	x	
Agency ID	x		x						
Project Officer	x		x						
Status	x			x					
Year	x		x				x	x	
GLRI Amount	x		x				x	x	
Project Type	x		x				x		
Project Title	x		x				x		
Recipient Name	x		x				x	x	
Project Description	x		x				x		
Focus Area	x		x				x	x	
Project Start Date	x		x				x		
Project End Date	x		x				x		
Affected States	x		x				x		
Latitude	x		x				x		
Longitude	x		x				x		
Watersheds	x		x						
Leveraged Funding		x						x	
Lake Erie HAB funding		x						x	
Sub-award Tribal funding		x		x				x	
Tribal recipients		x							
Template		x		x					
Agency specific		x							
Primary Measure	x				x				X

Keywords (at Measure level)	x			x				x	
PM Expected Results Upon Completion	x (if numeric)			x					
PM Results 10/1 - 9/30 each FY starting FY20	x				x				x
PM Comment						x			
Date results entered	x (auto)								
Supporting documentation	x								
Second Measure		x			x				x
Keywords (at Measure level)	x			x				x	
2M Expected Results Upon Completion	x (if numeric)	x		x					
2M Results 10/1 - 9/30 each FY starting FY20		x			x				x
2M Comment						x			
Date results entered	x (auto)								
Supporting documentation	x								
Third Measure		x			x				x
Keywords (at Measure level)	x			x				x	
3M Expected Results Upon Completion	x (if numeric)	x		x					

3M Results 10/1 - 9/30 each FY starting FY20		x			x				x
3M Comment						x			
Date results entered	x (auto)								
Supporting documentation	x								

*Definitions for these data fields are provided in Data Entry Guidance.

The following information references the data classifications and the data fields categorized into those classifications in the table above:

Requirement Level

The "Requirement Level" classification describes the degree to which data entry is required for projects identified in EAGL 2, as described in Data Entry Guidance. There are two such levels of required data, and a third level of unrequired data fields.

Required describes data fields listed as "Required" in Data Entry Guidance that RWG Agencies are required to complete for their projects, if such information can be determined. In some cases, sufficient data on a project may not be available until further into the project's implementation.

Where Applicable describes data fields listed as "Where Applicable" in Data Entry Guidance. RWG Agencies are required to complete these data fields only to the extent that completion of these data fields is applicable to the project.

In the table above, data fields are classified as *Required* and *Where Applicable.* All remaining data fields with an unclassified Requirement Level are optional data fields.

Final Reporting Destination

Data collected through the EAGL 2 Information System is used to fulfill reporting obligations and to support program planning. The Final Reporting Destination classification classifies data fields by the final reporting obligation that the data entered into the field fulfills.

GLRI.US describes data fields that are directly posted to the project lists and project map on GLRI.us.

Briefings and analysis describes data fields that are used to inform program planning and to develop various briefing materials as they may be needed.

Annual Report to Congress describes data fields that are used to fulfill final reporting obligations for the GLRI Annual Report to Congress. EAGL 2 Data System Sponsors subject these data fields to data transformation processes to fulfill final reporting obligations. Data entered into these fields by RWG Agencies are not directly reported in the Annual Report to Congress.

Data Purpose Classification

While data collected through the EAGL 2 Information System is ultimately collected to fulfill reporting obligations, the data collected through EAGL 2 may also be used for alternative purposes. The Data Purpose Classification classifies data fields by these alternative fields.

Project Identification describes data fields that "identify" a project in EAGL 2. They are data fields generally pertaining to project characteristics rather than project results. Generally, information from these data fields are posted to GLRI.us, although some exceptions exist, such as the Watersheds field.

Program Management describes data fields that program managers may use to assess the status of the program and any particular project recorded in EAGL 2.

Project Results describes data fields used to tabulate results against the Action Plan III Measures of Progress.

Supplemental Project Results describes data fields that are used to support data entered into *Project Results* data fields.

Standard definitions for each data field are detailed on Data Entry Guidance. The table above summarizes which Data Fields correspond to which Data Type.

C.ix. EAGL 2 Information System Controls

RWG agencies enter data directly into EAGL 2 information system. The following data validation functions are the current system controls on data entry into the EAGL 2 Information System:

- Users have accounts with various permission depending on their role:
  - Project Officer – can edit projects for which they are the project officer
  - Superuser – can edit all projects owned by the agency for which belong
  - Reviewer – can review and approve all projects owned by the agency for which belong
- The selectable options listed in the drop-down menus on the following fields are dependent on data entered into other fields.
  - The list of selectable options for the Primary Measure field is restricted to the Measures of Progress from the Focus Area assigned to the project in the Focus Area field. EAGL 2 Data Entry Guidance requires that the Primary Measure assigned to a project be from the Focus Area from which the project was funded. Subsequent Measures of Progress can be from any Focus Area.
  - The list of selectable options for the Keywords fields is dependent on the Focus Area and/or Measure of Progress assigned to the project. The list of Keywords in EAGL 2 is organized by Focus Area.

D. Other EPA Procedures to fulfill Data System Sponsor Responsibilities

D.i. Identifying project information for submission or review each Data Call

The EAGL 2 System Administrator is responsible for identifying reviews that will be needed during each Data Call. This is done at the start of each new end-of-year Data Call by changing the Progress Period that users are reporting for (i.e., the most recent fiscal year). The EAGL2 Information System will then automatically change color coding and the "Last Review Date" as project information is subsequently entered and reviewed. Data Contacts and Data Reviewers can thus readily determine projects for which data entries and reviews have been completed and those for which data entries and reviews still remain to be done.

The EAGL 2 Information System contains the history of results reported since the start of GLRI Action Plan II and projects identified since the start of Action Plan I. However, Measure results are only collected in EAGL2 as of the end of fiscal year 2020. As the data owner, RWG Agencies are responsible for completing data entry to update project information and results during the respective Data Calls.

The EAGL 2 System Administrator may make the following changes, as necessary, to the EAGL2 Information System:

- The EAGL 2 System Administrator may add data fields or add more options to the list displayed in data fields with drop-down menus to collect data to meet newly identified reporting needs or to capture information previously collected by deleted data fields, as directed by the GLNPO System Administrator.
- The EAGL 2 System Administrator may delete a data field or delete options on the list displayed in data fields with drop-down menus, as directed by the GLNPO Reporting Coordinator. In these instances, fields for data collection may be restructured to collect the information that was captured by the deleted data field elsewhere.
- On rare occasions, the GLNPO Reporting Coordinator directs the EAGL 2 System Administrator to delete a data field without capturing the deleted information elsewhere in the EAGL2 Information System. This information reported in prior Data Calls is still archived through routine short-term and long-term storage processes conducted by the EAGL 2 System Administrator. Data fields are only deleted if it is determined that the data need fulfilled by the inclusion of the data field is no longer a data need and that the information captured by the data field no longer needs to be collected.

In EAGL 2 Information System restructuring, the EAGL 2 System Administrator does not make changes to the history of previously reported data for specific projects. Rather, changes are applied globally to all EAGL 2 Information System data fields, usually to meet changing data needs. The data system sponsors communicate these changes in anticipation of the next Data Call to the RWG Data Contacts and Data Reviewers through updated EAGL 2 reporting guidance documents, EAGL 2 Training Webinars, and instructions in the Data Call initiation email.

D.ii. Data Archival Procedures
Data Archival Schedule

The EAGL 2 System Administrator is responsible for archiving data submitted to EAGL 2 for short-term and long-term storage. All data collected in the EAGL2 system are maintained in the production database which is backed up automatically on a nightly basis. Only EAGL2 administrators can delete projects. In the instance that one or more RWG agencies submit their EAGL 2 data after the Data Call conclusion date or need to re-submit data to correct errors after the Data Call conclusion date, data are maintained in the production database

Archival of Data Not Captured in EAGL 2 Information System Project Entries

EAGL 2 also collects data related to results reported against GLRI Action Plan II Measures of Progress that are not captured as project data entries. This data is reported to the "General Measures" page of the EPA EAGL 2 subsite, where Measures Leads report results for Measures tracked at the program-level. "Program-level" means that a discrete result contributing to the annual target for the Measure of Progress reflects the coordination of many GLRI-funded projects, and as such, is not reported respective to any one record of a GLRI-funded project in EAGL 2. Rather, a result contributing to the annual target is reported respective to the fiscal year

in which the result was achieved and is reported solely by the EPA in the "General Measures" section of the EPA EAGL 2 subsite. Because this data is taken from the General Measures page of the USEPA EAGL 2 subsite and reported directly in the Annual Report to Congress and the President, there is no project-level information to be archived by the EAGL 2 System Administrator for short-term or long-term storage.

D.iii. Data Transformation Processes

As the data system sponsor, the USEPA via Great Lakes National Program Office staff, is responsible for transforming data submitted to EAGL 2 for final reporting. Data transformation procedures are conducted by, or on behalf of, the respective Measure Lead for each Measure of Progress, as facilitated by the EAGL 2 System Administrator, and coordinated by the GLNPO Reporting Coordinator. Data sources and data collection processes for each Measure of Progress are included in Section 10 of the respective definition of progress for each Measure in the Measures Reporting Plan. Data is "transformed" as described below to determine total results for each Measure.

EAGL2 includes three types of Measures:
- Direct Measures: 1.2.1, 1.3.1, 2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.3.1, 3.1.1, 3.1.2, 3.2.1, 3.2.2, 4.1.1, 4.1.2, 5.1.1
- Program Measures: 1.1.1, 1.1.2, 1.1.3
- Inquiry Measures: 2.3.2, 3.3.1, 3.3.2, 4.2.1, 5.2.1.,5.2.2

Results for Direct Measures are taken directly from EAGL 2 and totaled without rounding decimal values.

Results for Program Measures are provided by the respective Measure Lead and totaled. These totals do not come from individual projects; but are the combination of results achieved through coordinated work done under many projects. Measure Leads report results contributing toward General Measures in the "General Measures" EAGL 2 subsite as an accomplishment of the program and by the fiscal year in which the result is achieved.

Results for Inquiry Measures are provided by the respective Measure Lead and totaled. When projects are entered in EAGL2, RWG agencies indicate whether the project will have numeric results and may enter those results. Projects without numeric results still support applicable measures. EPA Measure Leads contact applicable agencies regarding results for these Inquiry Measures and then enter any final results from those inquiries into EAGL 2.

Following RWG data entry, independent review, and submission, EPA Measure Leads[1] complete data transformation, including conducting a reasonableness check[2] of the results for their respective measures. Through the course of data transformation, EPA Measure Leads may note data entry that is inconsistent with EAGL 2 reporting guidance. In such cases, the Measures Leads contact the RWG Agency's Data Contact to resolve any issues, since those agencies are

---

[1] Other GLNPO staff or interns may assist Measure Leads in this and other functions.
[2] The reasonableness check includes a review of (i) the most significant (generally largest) results for a measure and (ii) final project results substantially lower or higher than the expected results.

the data owners. It is the data owner's responsibility to ensure that results submitted to EAGL 2 are current, accurate, complete, and consistent with EAGL 2 reporting guidance. If data inconsistencies cannot be resolved before results are needed for Final Reporting, that data is not counted for that reporting period. If the inconsistency is subsequently resolved, results for the respective project will be adjusted by a positive or negative data entry in the next reporting period for which Final Reporting has not yet been done.

Transformed results are posted to the "GPRA" EAGL 2 subsite and are used to fulfill the GLRI's final reporting obligations including the GLRI Annual Report to Congress. Such reported results may be rounded. The EAGL 2 System Administrator uses the updated records of projects submitted through EAGL 2 to update GLRI.us.

D.iv. Making Changes to EAGL 2 to Meet Emerging Data Needs
As necessary, and usually on an annual basis, the Data System Sponsors work together to identify emerging data needs and determine how to update EAGL 2 to meet those data needs. Typically, EPA Measure Leads and the GLNPO Reporting Coordinator identify emerging data needs to capture information that:

- Improves data quality
- Improves planning & budgeting process
- Better fulfills GLRI final reporting obligations
- Enables GLNPO to more effectively and efficiently respond to inquiries about the GLRI from EPA management and from private and public stakeholders such as elected officials, tribal governments and organizations, EPA headquarters, community groups, private citizens, etc.

The GLNPO Reporting Coordinator works with the EAGL 2 System Administrator to design and implement changes to the EAGL 2 Information System to capture the information needed to meet the identified emerging data needs. Changes are made accordingly where necessary, and notice of changes is communicated to RWG Agency Data Contacts and Data Reviewers through the dissemination of updated EAGL 2 reporting guidance, in EAGL 2 Training Webinars, and general emails of notice, including the initiation email for the next EAGL 2 Data Call.

D.v. Making Changes to the EAGL 2 Reporting Guidance
As necessary, the Data System Sponsors make changes to the EAGL 2 Reporting Guidance. "EAGL 2 Reporting Guidance" includes the GLRI Action Plan III Measures Reporting Plan and Data Entry Guidance. Generally, these changes are based on:

- The need to address situations that arose in the prior Data Call that are not addressed in the existing guidance
- The need to address newly identified data needs or new data fields
- Common errors identified through system-wide audits or identified while conducting data transformation processes
- Other changes to the GLRI that are relevant to the EAGL 2 Reporting Guidance

As the owners and authors of their respective Measures of Progress, changes to the Measures Reporting Plan are usually initiated and made by EPA Measure Leads. While changes to Data Entry Guidance are made by the EAGL 2 System Administrator, Data System Sponsors all work together to identify necessary revisions to Data Entry Guidance. The GLNPO Reporting Coordinator oversees and reviews these changes to ensure that changes are made to maintain consistency of reporting for the GLRI.

For the convenience of EAGL 2 users, changes are summarized in a "Summary of Changes" section in the Measures Reporting Plan, noted in the introductory "Basic Instructions" section of Data Entry Guidance, and are communicated in EAGL 2 Training Webinars that are hosted by the EAGL 2 System Administrator in anticipation of the next EAGL 2 Data Call.

As changes to EAGL 2 Reporting Guidance are finalized, the EAGL 2 System Administrator posts the final updated versions to EAGL 2. The GLNPO Reporting Coordinator emails RWG Data Contacts and Data Reviewers, copying the RWG, to inform them when the updated guidance is posted to EAGL 2.

Prior posted versions of the Measures Reporting Plan are stored in the EAGL 2 System Administrator's files for reference when conducting system-wide audits.

D.vi. System Auditing Procedures

As the EAGL 2 Information System data sponsors, USEPA initiated annual system-wide audits beginning in FY2017. These system-wide audits assess the Project Results Data fields (see III.D.iii above) for projects selected for audit relevant to the 9 *Action Plan III* Measures of Progress specified below. These Measures have numeric results <u>and</u> have EAGL 2 data entries that can be totaled to get a cumulative result[3]. Such Measures of Progress are:

- Measure 2.1.1 – Rapid responses or exercises conducted.
- Measure 2.2.1 – Aquatic/terrestrial acreage controlled.
- Measure 3.1.1 – Estimated pounds of phosphorus reductions from conservation practice implementation throughout Great Lakes watersheds.
- Measure 3.1.2 - Acres receiving technical or financial assistance on nutrient management in priority watersheds.
- Measure 3.2.1 – Estimated gallons (in millions) of untreated stormwater runoff captured or treated.
- Measure 3.2.2 – Miles of Great Lakes shoreline and riparian corridors restored or protected.
- Measure 4.1.1 – Acres of coastal wetland, nearshore, and other habitats restored, protected, or enhanced.
- Measure 4.1.2 – Miles of connectivity established for aquatic species.
- Measure 5.1.1 – Youth impacted through education and stewardship projects.

---

[3] This list does not include Measures for which projects support the Measure, but do not directly provide a numeric result or the information to identify results is outside of EAGL 2 such as those for Focus Area 1 and those for numbers of activities, technologies, collaboratives, practices, tools, species, monitoring, or priorities.

In addition to the USEPA-directed system-wide audits, the GLRI relies on the data owners – RWG agencies – to perform individual reviews and audits of all data fields for data the RWG agency has submitted to the EAGL 2 Information System. This includes any data fields not assessed by USEPA-directed system-wide audits (such as Project Identification Data Fields, Program Management Data Fields, Supplemental Project Results Data Fields, and Project Results Data Fields relevant to tracking *Action Plan III* Measures of Progress with no annual targets, as specified above in Section III.D.iii) This also includes any data fields that are assessed by USEPA-directed system-wide audits (Project Results Data for tracking *Action Plan III* Measures of Progress with annual targets, as specified in Section III.D.iii above). As a part of this internal audit, data owners are also responsible for revising the internal systems and procedures they use to complete data entry into the EAGL 2 Information System in order to address any sources of errors affecting data quality.

EAGL 2 System-Wide Audit Framework

The EAGL 2 system-wide audit assesses the accuracy, completeness, consistency, and currency (respective to the Data Call for which the results were submitted) of reported results for each audited Measure of Progress. The purpose of the assessment is to identify sources of error in order to implement systematic and procedural changes that improve the data quality of future results. The audit is considered "system-wide" because, as opposed to internal audits conducted by RWG agencies on data they submit to EAGL 2, the system-wide audit reviews data submitted by all RWG agencies.

The system-wide audit assesses whether stored records and documentation justify the submitted result and whether the reported result meets Measure of Progress definitions. RWG agencies are responsible for submitting and storing all records and documentation used to support results the agency submits to EAGL 2. Data is reviewed for its compliance with the reporting guidance and Measure of Progress definitions available at the time the data was submitted to EAGL 2.

GLNPO conducts system-wide audits of EAGL 2 data annually such that all reported results from the previous year for applicable measures are potentially be subject to audit. This is a change from previous practice of selecting projects from half of the agencies every other year. This change coincides with a procedural change by which, starting with FY 2020 results, agencies are required to submit supporting documentation into EAGL2 along with their reported results.

FY of the Audit: During the second quarter (January-March) of each fiscal year, GLNPO will initiate the system-wide audit of EAGL 2 data. This is intended to allow sufficient time to ensure data transformation processes for the previous fiscal year are completed before the audit is initiated. (Data transformation processes are dependent on accurate, complete, current, and consistent data submitted by RWG Agencies. The lag provides time for late or revised submissions.)

FY in which Data is Reported: The audit will be conducted on results reported for the immediately preceding reporting period (October 1 – September 30 of the previous year).

Reported results will be compared with the Agency-submitted supporting documentation in EAGL 2 for the applicable measures.

Data Owner: GLNPO will review the results reported in EAGL 2 to determine which agencies own that data. Results contributing to the annual target are reported at the project-level for the 11 measures specified in Section E. vi. above, meaning that RWG Agencies report results respective to each record of a GLRI-funded project in EAGL 2 that achieved a contributing result.

Projects reporting results for the specified 9 measures are considered to be "Eligible Projects." To conduct the audit, GLNPO will select two groups of projects from the Eligible Projects – a targeted group and a random group.

- The targeted group will generally consist of all Eligible Projects that contributed 5% or more of the reported results for any of the specified <u>Measures</u>; however, a threshold greater than 5% may be established for Measures for which results come from a small number of projects (*e.g.,* if in a given year, there were only 8 rapid responses, each would constitute 12.5% of the total; in that case an adjustment would be made so that all 8 of those projects would not be audited).
- The random group will generally consist of (i) 10% of each <u>Agency's</u> Eligible Projects plus (ii) additional random selections as needed from any Agency so that a minimum of 10% of the Eligible Projects is selected for each Measure. (Each Agency's projects for the random group are first selected randomly from among all of its Eligible Projects, regardless of the Measure, in an amount that, when added to the Agency's projects in the targeted group, totals at least 10% of its Eligible Projects. Additional random selections are made if needed to achieve the 10% requirement for particular Measures.) Random selection is done to create a representative sample.

GLNPO will audit all of the results for each of these two groups. In conducting the audit, GLNPO will compare reported results with information in the supporting documentation. If supporting documentation is not sufficient to verify the reported results, GLNPO will contact the Data Owner for an explanation and/or additional supporting documentation.

Measures 1.1.1, 1.1.2, and 1.1.3 are tracked at the program-level. This means that a discrete result contributing to the annual target reflects the results from many contributing projects and cannot be attributed to any single record of a GLRI-funded project. Rather, the result corresponds to the fiscal year in which the result was achieved and is reported solely by the EPA in the "General Measures" section of the USEPA EAGL 2 subsite. In conjunction with the audit, GLNPO will also review program files to verify the accuracy of reported results for Measures 1.1.1, 1.1.2, and 1.1.3.

Actions taken to address sources of error identified in the system-wide audit are determined after the audit is concluded. RWG Agencies will be involved in providing input and advice to improve the audit process. The determined course of action is dependent on the results of the audit. Actions USEPA may take include, but are not limited to:

- Providing RWG Agencies with specific recommendations to improve the Agencies' reporting systems and procedures
- Requesting RWG Agencies to conduct an internal audit on 100% of their data to assess the complete reliability of reported results
- Improving and/or expanding EAGL 2 reporting guidance
- Changing roles, responsibilities, and procedures