ENVIRONMENTAL SAMPLING, ANALYSIS and RESULTS: PROJECT

Standard No.: EX000002.1

January 6, 2006

This standard has been produced through the Environmental Data Standards Council (EDSC).

The Environmental Data Standards Council (EDSC) is a partnership among US EPA, States and Tribal partners to develop and agree upon data standards for environmental information collection and exchange. More information about the EDSC is available at http://www.envdatastandards.net.
Foreword

The Environmental Data Standards Council identifies, prioritizes and pursues the creation of data standards for those areas where information exchange standards will provide the most value in achieving environmental results. The Council involves Tribes and Tribal Nations, state and federal agencies in the development of the standards and then provides the draft materials for general review. Business groups, non-governmental organizations, and other interested parties may then provide input and comment for Council consideration and standard finalization. Draft and final standards are available at http://www.envdatastandards.net.

1.0 INTRODUCTION

The Environmental Sampling, Analysis and Results (ESAR): Project data standard provides and describes data groupings that are used to exchange data related to environmental data projects. These include information about the identification, contacts, dates, study areas, reasons, and quality constraints of project data. The parties that are collecting and managing the data determine the level of description needed to specify a project.

1.1 Scope

This standard provides and describes data groupings that are used to catalogue and exchange project information. The Environmental Sampling, Analysis and Results: Project data standard also identifies descriptors for environmental data project activities.

1.2 Revision History

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 6, 2006</td>
<td>EX000002.1</td>
<td>Initial Environmental Data Standards Council Adoption</td>
</tr>
</tbody>
</table>

1.3 References to Other Data Standards

This standard relies on other standards to make it complete and provide the necessary support. Users should consider the Normative Standards (references), noted below, integral to this standard. These include:

- Attached Binary Object [EX000006.1] Data Standard
- Bibliographic Reference [EX000007.1] Data Standard
- Contact Information [EX000019.2] Data Standard
- Facility Site Identification [EX000020.2] Data Standard
- Representation of Date and Time [EX000013.1] Data Standard

1.4 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

| Term          | Definition |
|---------------|------------|-------------|

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Project An environmental data collection effort that has a stated purpose and puts a series of samples/results into a meaningful context.

1.5 Implementation

Users are encouraged to use the XML registry housed on the Exchange Network Web site to download schema components for the construction of XML schema flows (http://www.exchangenetwork.net).

1.6 Document Structure

The structure of this document is briefly described below:

a. Section 2.0 Diagram, illustrates the principal data groupings contained within this standard.

b. Section 3.0 ESAR: Project Data Standard Table provides information on the high level, intermediate and elemental Project data groupings. Where applicable, for each level of this data standard a definition, XML tag, note(s), example list of values and format are provided. The format column may list the number of characters for the associated data element, where “A” specifies alphanumeric, “N” designates numeric, and date and time reference the Representation of Date and Time Standard. The format column may include the number of characters for the associated data element, where “A” specifies alphanumeric, “N” designates numeric, “G” and “D” are used for grouping and date/time.

c. Data Element Numbering: For purposes of clarity and to enhance understanding of data standard hierarchy and relationships, each data group is numerically classified from the primary to the elemental level.

d. Code and Identifier Metadata: Metadata, defined here as data about data or data elements, includes their descriptions and/or any needed context setting information required to identify the origin, conditions of use, interpretation, or understanding the information being exchanged or transferred. (Adapted from ISO/IEC 2382-17:1999 Information Technology Vocabulary—Part 17: Databases 17.06.05 metadata). Based on the business need, additional metadata may be required to sufficiently describe an identifier or a code. A note regarding this additional metadata is included in the notes column for identifier and code elements. Additional metadata for identifiers may include:
   - Identifier Context, which identifies the source or data system that created or defined the identifier

Additional metadata for codes may include:
   - Code List Identifier, which is a standardized reference to the context or source of the set of codes
   - Code List Version Identifier, which identifies the particular version of the set of codes.
   - Code List Version Agency Identifier, which identifies the agency responsible for maintaining the set of codes
   - Code List Name, which describes the corresponding name for which the code represents

e. Appendix A ESAR: Project Data Structure Diagram, illustrates the hierarchical classification of the Project data standard. This diagram enables business and technical users of this standard to quickly understand its general content and complexity. Appendix B, lists the references for the ESAR Project Document.
2.0  ENVIRONMENTAL SAMPLING, ANALYSIS, AND RESULTS: PROJECT DIAGRAM

This diagram specifies the major data groups that may be used to identify the characteristics and/or to catalog an Environmental Sampling, Analysis, and Results: Project.

```
Environmental Sampling,
Analysis and Results
Project
Data Standard
```

```
1.0 Project Point of Contact
2.0 Project Identification
3.0 Project Duration
4.0 Project Reason
5.0 Data Collection Area
6.0 Data Collection Facility Site Identification
7.0 Data Collection Quality
8.0 Project Reference
9.0 Project Attached Binary Object
10.0 Project Bibliographic Reference
```
### 3.0 ENVIRONMENTAL SAMPLING, ANALYSIS, AND RESULTS: PROJECT DATA STANDARD TABLE

#### 1.0 Project Point of Contact

<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Project Contact</td>
<td>Identifies the initial organization or person responsible for the data collection.</td>
<td>Note: Refer to the <a href="EX000019.2">Contact Information Data Standard</a>. The following items are expected to define the project Entity/Person information: Individual Full Name, Individual Identifier, Individual Identifier Type, Organization Formal Name, Affiliation Type, Mailing Address, Supplemental Address Text, Mailing Address City Name, Mailing Address State Name, Mailing Address State Code, Mailing Address Country Name, Mailing Address Country Code,</td>
<td>G</td>
<td>ProjectContact</td>
</tr>
<tr>
<td>Data Element Name</td>
<td>Data Element Definitions</td>
<td>Notes</td>
<td>Format</td>
<td>XML Tags</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------</td>
<td>-------</td>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td>1.1 Project Contact (cont.)</td>
<td>Mailing Address Zip Code/International Postal Code, Telephone Number, Telephone Number Type Name, Electronic Address Text, Electronic Address Type Name.</td>
<td>Note: Refer to the Contact Information [EX000019.2] Data Standard. The following items are expected to define the project Entity/Person information: Individual Full Name, Individual Identifier, Individual Identifier Type, Organization Formal Name, Affiliation Type, Mailing Address, Supplemental Address Text, Mailing Address City Name, Mailing Address State Name, Mailing Address State Code, Mailing Address Country Name, Mailing Address Country Code, Mailing Address Zip Code/International Postal Code, Telephone Number, Telephone Number Type Name.</td>
<td>G</td>
<td>ProjectClientCont act</td>
</tr>
</tbody>
</table>
2.0 **Project Identification**

<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Project Identifier</td>
<td>A designator used to uniquely identify the project to organizations sharing data.</td>
<td><em>Note:</em> Based on the business need, additional metadata may be required to sufficiently describe an identifier. This additional metadata is described in section 1.6.d in the Introduction. Precise meaning will be agreed upon during development of the Trading Partner Agreement for the Exchange Network.</td>
<td>A</td>
<td>ProjectIdentifier</td>
</tr>
<tr>
<td>2.2 Project Name</td>
<td>The name assigned to the Project by the project leader or principal investigator.</td>
<td>Example List of Values:</td>
<td>A</td>
<td>ProjectName</td>
</tr>
<tr>
<td>2.3 Project Environmental Interest Name</td>
<td>The environmental permits and regulatory programs that apply to the project.</td>
<td>Example List of Values:</td>
<td>A</td>
<td>ProjectEnvironmentalInterestName</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Section 106 Grant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Section 105 Grant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- NPDES Permit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Superfund Site</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Remedial Investigation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 3.0 Project Duration

**Definition:** Data elements relating to the length and status of a project.

**Relationship:** None.

**Notes:** The Representation of Date and Time [EX000013.1] Data Standard will apply anytime a date is reported.

**XML Tag:** ProjectDuration

<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Project Start Date</td>
<td>The calendar date on which a project began.</td>
<td>Reported as 4-digit year, 2-digit month, and 2-digit day.</td>
<td>D</td>
<td>ProjectStartDate</td>
</tr>
<tr>
<td>3.2 Project End Date</td>
<td>The calendar date on which a project ended; may be after actual field activities have ended.</td>
<td>Reported as 4-digit year, 2-digit month, and 2-digit day.</td>
<td>D</td>
<td>ProjectEndDate</td>
</tr>
<tr>
<td>3.3 Project Duration Text</td>
<td>Planned length or duration of the project activity.</td>
<td>Example List of Values:</td>
<td>A</td>
<td>ProjectDurationText</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Five Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 1 Year Study</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Irrigation Season</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• On-going Monitoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Low Flow Period (May-October)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.4 Project Status Text</td>
<td>Description of the current state of the Project.</td>
<td>Example List of Values:</td>
<td>A</td>
<td>ProjectStatusText</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ACTIVE: The project is currently active with field activities and/or data entry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• COMPLETED: The project has been completed. All data has been collected and a Quality Assurance (QA) review has been completed.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 3.4 Project Status Text (cont.)
- DATA COMPLETED: All study data has been collected, but a QA review has not yet been completed for the project. Data should be considered preliminary.

### 3.5 Project Status Date
Date indicating when the Project Status was determined.

**Notes:** Reference the Representation of Date and Time [EX000013.1] Data Standard Reported as 4-digit year, 2-digit month, and 2-digit day.

**Format:** D

**XML Tags:** ProjectStatusDate

### 4.0 Project Reason
**Definition:** The explanation of or justification for the project.
**Relationship:** None.
**Notes:** None.
**XML Tag:** ProjectReason

### 4.1 Project Purpose Text
A summary description of the purpose of, or the hypothesis to be tested by the project.

*Note:* The Project Purpose should include the reason(s) for initiating the project plus its goals and expectations. This data field should also be used to describe any relationship that this project has with other activities.

**Example:**
The purpose of the study is to characterize the baseline concentration and three dimensional distribution of nitrate in groundwater in the Central Columbia Basin (Grant, Adams, and Franklin counties).
### 4.2 Project Objective Text
Summary of the objectives to be accomplished by the project.

<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2 Project Objective Text</td>
<td></td>
<td>Example: Collect sufficient information to determine permit compliance with a 95% level of confidence.</td>
<td>A</td>
<td>ProjectObjectiveText</td>
</tr>
</tbody>
</table>

### 4.3 Project Outcome Description Text
A brief summary of the results of the project.

<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tags</th>
</tr>
</thead>
</table>
| 4.3 Project Outcome Description Text | | Note: The fully detailed project report may be referenced by attaching the relevant bibliographic citation to the project. Examples:  
- Final report describing the study findings and QA evaluation: USGS Water-Resources Investigation.  

### 5.0 Data Collection Area
Definition: The geographic area for a project.

<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 Data Collection Area</td>
<td></td>
<td>Multiple areas may exist for a project.</td>
<td>A</td>
<td>DataCollectionArea</td>
</tr>
<tr>
<td>Data Element Name</td>
<td>Data Element Definitions</td>
<td>Notes</td>
<td>Format</td>
<td>XML Tags</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------</td>
<td>-------</td>
<td>--------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| 5.1 Data Collection Area Name | The common name assigned to the geographic area of interest. | Example List of Values:  
- 1560 (CHATTANOOGA, TN-GA)  
- 07 (BOS-WOR-LAW, MA-NH-ME-CT)  
- Central Columbia Basin GWMA  
- Area 51  
- Rocky Flats Arsenal | A | DataCollectionAreaName |
| 5.2 Data Collection Area Description Text | A general description of the geographic boundaries or spatial area being studied through the monitoring activities conducted as part of the project. | Examples:  
- Central Columbia Basin Groundwater Management Area (GWMA) - Includes All of Grant, Adams, and Franklin Counties  
- All sites within the Akron, Ohio City Limits  
- Potomac River from Lincoln Memorial Downstream to Wilson Bridge | A | DataCollectionAreaDescriptionText |
<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tags</th>
</tr>
</thead>
</table>
| 5.3 Data Collection Area Type Name | The predominant focus or frame of reference for the project area. | Multiple selections may be present. Example List of Values:  
- MSA (Metropolitan Statistical Area)  
- AQCR (Air Quality Control Region)  
- Aquifer  
- Estuary  
- Watershed  
- Airshed  
- Reservoir  
- Soil  
- Sediment  
- Landfill  
- Drums  
- Man-made Materials  
- 1st through 3rd Order Streams  
- Streams Capable of Supporting Coho Salmon Spawning and Rearing | A | DataCollectionAreaTypeName |
6.0 Data Collection Facility Site identification

Definition: Basic identification information for a facility site of the project.

Relationship: None.

Notes: Refer to the Facility Site [EX000020.2] Data Standard.

The following items may be needed:
- US EPA or State facility registry identifier
- Geographic address
- Geopolitical descriptors

May also include:
- Locality name
- County or State FIPS codes
- Tribal name
- Geographic coordinates of latitude/longitude

Note: Based on the business need, additional metadata may be required to sufficiently describe an identifier. This additional metadata is described in section 1.6.d. in the Introduction.

XML Tag: DataCollectionFacilitySiteIdentification

7.0 Data Collection Quality

Definition: The quality components for a project.

Relationship: None.

Notes: None.

XML Tag: DataCollectionQuality

<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tags</th>
</tr>
</thead>
</table>
| 7.1 Data Collection Quality Assurance Plan Indicator | An indicator (Y/N) of the existence of a Quality Assurance Plan for the project. | List of Permitted Values:
| | Y – yes
| | N – no
<p>| | A | DataCollectionQualityAssurancePlanIndicator |</p>
<table>
<thead>
<tr>
<th>Data Element Name</th>
<th>Data Element Definitions</th>
<th>Notes</th>
<th>Format</th>
<th>XML Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2 Data Collection Quality Assurance Plan Description Text</td>
<td>A summary of the Quality Assurance Plan approved for the project.</td>
<td>Note: This plan may be a QAPP required by US EPA, a quality assurance plan required by a state or other quality assurance plan.</td>
<td>A</td>
<td>DataCollectionQualityAssurancePlanDescriptionText</td>
</tr>
<tr>
<td>7.3 Data Collection Quality Assurance Plan Date</td>
<td>The date of the quality assurance objectives document that relates to the data being collected.</td>
<td>Reported as 4-digit year, 2-digit month, and 2-digit day.</td>
<td>D</td>
<td>DataCollectionQualityAssurancePlanDate</td>
</tr>
</tbody>
</table>

8.0 Project Reference

Definition: References, either directly as electronic attachments or as a bibliographic reference, documents, images, maps, photos, laboratory materials, geospatial coverages, and other objects within the data submission that pertain to the project.

Relationship: None.

Notes: Multiple objects may be attached to the data submission for each project included in the submission. May attach US EPA Quality Assurance Project Plan (QAPP), state or lab quality assurance plan and/or Sampling Analysis Plan (SAP)

XML Tag: ProjectReference

9.0 Project Attached Binary Object

Definition: References electronic attachments to the project, including documents, images, maps, photos, laboratory materials, geospatial coverage, and other objects.

Relationship: None.

Notes: Reference the Attached Binary Object [EX000006.1] Data Standard. May attach US EPA Quality Assurance Project Plan (QAPP), state or lab quality assurance plan and/or Sampling Analysis Plan (SAP)

XML Tag: ProjectAttachedBinaryObject

10.0 Project Bibliographic Reference

Definition: Catalog information describing associated project resources, including documents, images, maps, photos, laboratory materials, geospatial coverages, and other objects.

Relationship: None.

Notes: Reference the Bibliographic Reference [EX000007.1] Data Standard. May reference US EPA Quality Assurance Project Plan (QAPP), state or lab quality assurance plan and/or Sampling Analysis Plan (SAP)

XML Tag: ProjectBibliographicReference
Appendix A
Environmental Sampling, Analysis, and Results: Project Data Structure Diagram

1.0 Project Point of Contact
1.1 Project Contact
1.2 Project Client Contact

2.0 Project Identification
2.1 Project Identifier
2.2 Project Name
2.3 Project Environmental Interest Name

3.0 Project Duration
3.1 Project Start Date
3.2 Project End Date
3.3 Project Duration Text
3.4 Project Status Text
3.5 Project Status Date

4.0 Project Reason
4.1 Project Purpose Text
4.2 Project Objective Text
4.3 Project Outcome Description Text

5.0 Data Collection Area
5.1 Data Collection Area Name
5.2 Data Collection Area Description Text
5.3 Data Collection Area Type Name

6.0 Data Collection Facility Site Identification

7.0 Data Collection Quality
7.1 Data Collection Quality Assurance Plan Indicator
7.2 Data Collection Quality Assurance Plan Description Text
7.3 Data Collection Quality Assurance Plan Date

8.0 Project Reference

9.0 Project Attached Binary Object

10.0 Project Bibliographic Reference
Appendix B
References

i. ISO/IEC 2382-17:1999 Information Technology Vocabulary—Part 17: Databases 17.06.