­­­­NPS Metadata Template (2024)­­­

Purpose and Introduction

Metadata is key component of a data package, as it helps others to understand your data and assess whe­ther it’s a good fit for a particular purpose. This template can help organize all the bits of information that must come together to create metadata inside of your data package. Overall guidance on metadata and data packages can be found on the Data Publication Best Practices SharePoint.

Data Package Title

(Include **what, where,** and **when**. E.g. “Monthly Water Quality Data from Horsetooth Reservoir, Colorado: 2010-2019”)

|  |
| --- |
| Fish community and associated habitat data from the Heartland Inventory and Monitoring Network: 2001 - 2023 |

Metadata Filename

(Similar to Data Package Title, should be informative. Be sure it ends in **\_metadata** to comply with data package specifications. This will become the file name of your .xml. Example: RMNP\_Mammals\_2020\_metadata)

|  |
| --- |
| HTLN\_fish\_2023\_metadata |

Data Files, Names, and Descriptions

(List your data files, give them an informative name and description. Descriptions should be unique and about 10 words long)

|  |  |  |
| --- | --- | --- |
| **Data File**  **(e.g. SEUG\_crustClassData.csv)** | **Informative Name**  **(e.g. SEUG LTVM Biocrust Data)** | **Description**  **(e.g. Biological soil crust development class data)** |
| BankMeasurementInfo.csv | HTLN River and Stream Bank Measurements | River and stream bank characteristics |
| CrossSectionInfo.csv | HTLN River and Stream Cross-section Channel Data | Cross-section channel characteristics |
| DischargeFieldMeasurements.csv | HTLN Field Measures of River and Stream Discharge | Field measurements of stream and river discharge |
| DischargeGaugeInfo.csv | USGS Gauge Station Data for HTLN River and Stream Discharge | USGS gauge data for stream and river discharge |
| FishCountsThru\_2023.csv | HTLN Fish Community Data | Fish species counts, sizes, weights and conditions |
| FishCoverInfo.csv | HTLN Fish Cover Types and Classes | Fish habitat cover types and cover class data |
| FishReachLocations.csv | HTLN Fish Reach Lat/Long Coordinates | Reach locations along with site sampling status |
| LocationDetails.csv | HTLN Location Details | Crosswalk table between ReachID and LocationID (one-to-one) |
| ReachConditions.csv | HTLN Fish Habitat Reach and Weather Conditions | Reach and weather site conditions |
| ReachMeasurements.csv | HTLN Reach Water Quality Measurements | Discrete water quality measurements |
| SamplingPeriodsAndEvents.csv | HTLN Sampling Periods and Events | Sampling seasons and dates (contains EventID primary key) |
| SeineDaubenmireCoverClasses.csv | Daubenmire cover classes | Daubenmire cover class look-up table |
| SeineRiparianCorridor.csv | HTLN Riparian Cover Values | Measured riparian cover values to be joined with SeineRiparianCoverClasses |
| SeineRiparianCoverTypes.csv | HTLN Cover Class Lookup Table | Cover class lookup table for riparian cover values |
| SeineStreamSubstrate.csv | HTLN Stream Substrate Cover Values | Stream substrate types and associated cover values |
| TransectSpacingInterval.csv | HTLN Transect Spacing Intervals | Transect spacing intervals associated with sample locations |

Taxonomic Information

(List the data file(s) with your taxonomic information, including the scientific name field within that data file. We suggest using [DarwinCore](https://dwc.tdwg.org/terms) for column names, such as “scientificName”. If your data package does not have taxonomic data, skip this step.)

|  |  |
| --- | --- |
| **Data File**  **(e.g. qry\_Export\_AA\_VegetationDetails.csv)** | **Scientific Name Column**  **(e.g. scientificName)** |
| FishCountsThru\_2023.csv | ScientificName |

Geographic Information

(List the data file(s) that contain geographic information. Please ensure your geographic information is in **decimal degrees**. If your coordinates are in UTMs, the the [convert\_utm\_to\_ll()](https://nationalparkservice.github.io/QCkit/reference/convert_utm_to_ll.html) function in [QCkit](https://nationalparkservice.github.io/QCkit/) can help. If your data package does not have geographic information, you can skip this step.)

|  |  |  |  |
| --- | --- | --- | --- |
| **Data File**  **(e.g. qry\_Export\_AA\_points.csv)** | **Decimal Latitude Column**  **(e.g. decimalLatitude)** | **Decimal Longitude Column**  **(e.g. decimalLongitude)** | **Site Name Column** **(e.g. Point\_ID)** |
| FishReachLocations.csv | YstartDD | XstartDD | ReachID |

Content Units

(These are the park units where data were collected. If the data package includes data from more than one park, they can all be listed. For instance, if data were collected in all network park units, each unit should be listed separately rather than by the network code.)

|  |
| --- |
| BUFF, EFMO, GWCA, HEHO, HOME, HOSP, OZAR, PERI, PIPE, TAPR, WICR |

Producing Units

(This is the unit(s) responsible for generating the data package. It may be a single park (ROMO) or a network (ROMN). It may be identical to the units listed in the previous step, overlapping, or entirely different.)

|  |
| --- |
| HTLN |

Data Collection Status

Ongoing  Complete

Timeframe

|  |  |
| --- | --- |
| **Begin Date** | **End Date (leave empty for ongoing)** |
| 8/28/2001 |  |

Abstract

(Include what, why, where, when, and how.)

|  |
| --- |
| This monitoring dataset consists of fish community data for Buffalo National River, Ozark National Scenic Riverways and multiple prairie stream park units throughout the Midwest. The dataset includes fish species counts, site conditions, water quality and habitat measures, and stream discharge data for fish communities in Heartland Inventory and Monitoring Network Parks. The dataset includes approximately 115,000 individual observations covering over 130 fish species observed at 12 NPS park units taken between 2001 and 2023. The overall goals of Heartland Inventory and Monitoring Network fish community program are to monitor temporal changes in fish communities and relations between the fish communities and environmental factors. This monitoring information can be used by park managers to evaluate the effects of past and future activities and management decisions (either by park managers or others) on fish communities. The specific objectives for fish community monitoring are (1) to determine the status and trends in river, springs and small-stream fish communities by quantifying metrics (e.g. species richness, percent tolerant individuals, percent invertivores, and percent omnivores) that can be used to calculate multi-metric indices and (2) to estimate the spatial and temporal variability of fish community metric values and indices among collection sites, and relations between metrics and indices with various environmental variables (e.g. stream size, riparian characteristics, substrate characteristics, water quality, and land use). |

Methods

(Describes the data creation methods. Includes enough detail for future users to correctly use the data. Be specific about the study design and field and lab methods for collecting and processing the data. Protocol can be cited. It may also be appropriate to cite the datasets that were ingested to generate the data package, software (e.g. R), packages (e.g. dplyr, ggplot2) or custom scripts.)

|  |
| --- |
| Sampling design for this project consisted of establishing permanent sampling reaches for each park unit, then collecting fish community data and associated habitat data at each reach. The field data collection consisted of (1) collecting initial water quality data, (2) sampling fish within the reach and then processing fish samples, (3) collecting habitat data, (4) collecting water discharge data and (5) collecting final measures of water quality. Fish were sampled either using electrofish methods for large rivers, springs and streams or seine methods for small prairie streams. Water quality and site condition measures included weather conditions, water temperature, and CORE 5 water quality measures (pH, specific conductance, conductivity, dissolved oxygen and water turbidity). Habitat measures were taken using point-transect method and included measures of channel morphology, fish cover, and bank conditions. Water discharge measures were taken both by direct measures in the field at the reach site and from nearby hydrologic gauge stations.  Methodology protocols supporting this project include - for small streams - Dodd HR and Others. 2021. Protocol for Monitoring Fish Communities in Small Streams in the Heartland Inventory and Monitoring Network: Version 2.0. Natural Resource Report. NPS/HTLN/NRR—2021/2235. National Park Service. Fort Collins, Colorado. https://doi.org/10.36967/nrr-2284726; for springs - Dodd HR and Others. 2021. Protocol for monitoring spring communities at Ozark National Scenic River-ways, Missouri: Version 2.0. Natural Resource Report. NPS/HTLN/NRR—2021/2231. National Park Service. Fort Collins, Colorado. https://doi.org/10.36967/nrr-2284630; and for large rivers - Dodd HR and Others. 2018. Methods for monitoring fish communities of Buffalo National River and Ozark National Scenic Riverways in the Ozark Plateaus of Arkansas and Missouri, Version 2.0. Natural Resource Report. NPS/HTLN/NRR—2018/1633. National Park Service. Fort Collins, Colorado. |

Creators

**(These are the people who will show up as authors in the dataset citation.** These are the individuals who have provided intellectual or other significant contributions to the creation of this dataset, much like the authors of a research paper. Valid EML requires at least one person with a **creator** role.)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **First Name** | **Middle Initial** | **Last Name** | **Organization** | **Email address** | **ORCID ID (optional)** | **Role in project** |
| Hope | R. | Dodd |  | hope\_dodd@nps.gov |  | Creator |
| Gareth | A. | Rowell |  | gareth\_rowell@nps.gov |  | Creator |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Other personnel names and roles

(Who should a data user contact with questions about these data? You **must** enter a person or organization name to serve as the **contact** for this dataset. If this is the same person as the creator, list that person twice. You may also list other personnel who participated in the project (such as field crew, lab tech, data entry etc.) Persons serving more than one role are listed on separate lines. Other roles (e.g. Field Technician) will be listed as associated parties to the data. Their specific role (e.g. “Field Tech” will also be listed in metadata))

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **First Name** | **Middle Initial** | **Last Name** | **Organization** | **e-mail address** | **ORCID ID (optional)** | **Role in project** |
| Gareth | A. | Rowell |  | gareth\_rowell@nps.gov |  | Contact |
| Hope | R. | Dodd |  | Hope\_dodd.@nps.gov |  | Contact |
|  |  |  |  |  |  |  |
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Dissemination Level

(Select a Dissemination Level based on the CUI status of your dataset. This is a required step. You can choose from one of five dissemination codes. Watch out for the spaces!)

PUBLIC *(Does NOT contain CUI.)*

FED ONLY *(Contains CUI. Only federal employees should have access.)*

FED CON *(Contains CUI. Only federal employees and federal contractors should have access.)*

NOCON *(Contains CUI. Federal, state, local, or tribal employees may have access, but contractors cannot.)*

DL ONLY *(Contains CUI. Should only be available to a named list of individuals.)*

|  |
| --- |
| **DL ONLY Names** |
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More information about these codes can be found at: <https://www.archives.gov/cui/registry/limited-dissemination>).

Intellectual Rights Statement

(The EMLeditor tool can assist in modifying the intellectual rights statement that is embedded in metadata. Government works shared with the public are usually public, i.e. public domain, or CC0, and anything with CUI should be set to ‘restricted’.)

Public *(Does not contain CUI. The intellectual rights will read: “This work is in the public domain. There is no copyright or license.”)*

CC0 *(Does not contain CUI. The intellectual rights will read: “The person who associated a work with this deed has dedicated the work to the public domain by waiving all of his or her rights to the work worldwide under copyright law, including all related and neighboring rights, to the extent allowed by law. You can copy, modify, distribute and perform the work, even for commercial purposes, all without asking permission.”)*

Restricted (*Contains CUI.*)

Keywords

(List keywords below and separate with commas. Using keywords from a controlled vocabulary (CV) will improve the future discovery and reuse of your data. The LTER CV is a good source for keywords. Access the LTER CV [here](http://vocab.lternet.edu/vocab/vocab/index.php). Also, please determine one or two keywords that best describe your park, station, and/or project (e.g., Trout Lake Station, NTL LTER).)

|  |
| --- |
| River fish communities, spring fish communities, small stream fish communities, fish habitat, water quality, stream discharge; Buffalo National River, Ozark National Scenic Riverways, prairie streams |

Data Table(s)

(Provide a Table Name, Table Description, and description of each column in your data table):

* **Column Name**: This name must be exactly as it appears in the dataset. Please avoid special characters (like & or \), dashes and spaces. Underscores are permissible. Do not begin a column name with a number.
* **Description**: Please give a specific definition of the column name. This can be lengthy.
* **Class:** Column class. Valid options are **numeric**, **categorical**, **character**, and **date**.
* **Unit:** Identify units for all numeric variables. Please avoid special characters and describe units in this pattern: e.g., microSiemenPerCentimeter, microgramPerLiter, absorptionPerMolePerCentimeter
* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** BankMeasurementInfo.csv

**Table description:** River and stream bank characteristics

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| ChannelType | Channel type codes | character |  |  |  |  |
| ChannelTypeDescr | Channel type descriptions | character |  |  |  |  |
| TransectNumber | Transect number | numeric |  |  |  |  |
| SampleLocation | Sample location | character |  |  |  |  |
| SampleLocationDescr | Description of sample location | character |  |  |  |  |
| Season | Year at start of sampling season | numeric |  |  |  |  |
| BankAngle | Bank angle codes | numeric |  |  | -999 | No observation |
| BankAngleDescr | Bank angle descriptions | character |  |  |  |  |
| BankVegCover | Bank vegetation cover codes | numeric |  |  | -999 | No observation |
| BankVegCoverDescr | Bank vegetation cover descriptions | character |  |  |  |  |
| BankHeight | Bank height codes | numeric |  |  | -999 | No observation |
| BankHeightDescr | Bank height descriptions | character |  |  |  |  |
| BankSubstrate | Bank substrate codes | numeric |  |  | -999 | No observation |
| BankSubstrateDescr | Bank substrate descriptions | character |  |  |  |  |
| LargeTrees\_TR | Large trees (> 3 in. Dbh); -1 = true, 0 = false | numeric |  |  |  |  |
| SmTreesShrubs\_SH | Small trees and shrubs; -1 = true, 0 = false | numeric |  |  |  |  |
| GrassForbes\_GR | Grasses and forbs; -1 = true, 0 = false | numeric |  |  |  |  |
| BareRock\_Sediment\_BA | Bare rock / sediment; -1 = true, 0 = false | numeric |  |  |  |  |
| Artificial\_AR | Artificial; -1 = true, 0 = false | numeric |  |  |  |  |
| Comments | Comments | character |  |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

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* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** CrossSectionInfo.csv

**Table description:** Cross-section channel characteristics

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| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| ChannelType | Channel type codes | character |  |  |  |  |
| ChannelTypeDescr | Channel type descriptions | character |  |  |  |  |
| SiteNumber | Site number | numeric |  |  |  |  |
| TransectNumber | Transect number | numeric |  |  |  |  |
| SampleLocation | Sample location | character |  |  |  |  |
| SampleLocationDescr | Sample location description | character |  |  |  |  |
| ChannelUnit | Channel unit code | character |  |  |  |  |
| ChannelUnitDesc | Channel unit description | character |  |  |  |  |
| PoolForm | Pool form code | charaacter |  |  |  |  |
| PoolFormDescr | Pool form descriptions | character |  |  |  |  |
| Width\_m | Width of channel at transect | numeric | m |  | -999 | No observation |
| Depth\_cm | Depth at sample location | numeric | cm |  | -999 | No observation |
| Velocity\_ms | Velocity at sample location | numeric | m/sec |  | -999 | No observation |
| DomSubstrate | Dominant substrate Wentworth codes | character |  |  | -999 | No observation |
| WentworthSubstrateDescr | Average substrate size | character |  |  |  |  |
| WentworthMidpoint | Midpoint substrate value | numeric | mm |  |  |  |
| Embeddedness | Embeddedness percentage codes | character |  |  | -999 | No observation |
| EmbedCanCoverDescr1 | Embedded cover description | character |  |  |  |  |
| ECC\_MidpointValue1 | Embedded cover midpoint | numeric |  |  |  |  |
| CanopyCover | Canopy cover code | character |  |  | -999 | No observation |
| EmbedCanCoverDescr2 | Canopy cover description | character |  |  |  |  |
| ECC\_MidpointValue2 | Canopy cover midpoint | numeric |  |  |  |  |
| Comment | Comment | character |  |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

(Provide a Table Name, Table Description, and description of each column in your data table):

* **Column Name**: This name must be exactly as it appears in the dataset. Please avoid special characters (like & or \), dashes and spaces. Underscores are permissible. Do not begin a column name with a number.
* **Description**: Please give a specific definition of the column name. This can be lengthy.
* **Class:** Column class. Valid options are **numeric**, **categorical**, **character**, and **date**.
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* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** DischargeFieldMeasurements.csv

**Table description:** Field measurements of stream and river discharge

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| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| ChannelType | Channel type codes | character |  |  |  |  |
| Season | Year at start of field season | numeric |  |  |  |  |
| DischargeNo | Discharge number | numeric |  |  |  |  |
| DistanceFromBank\_m | Distance from bank | numeric | m |  | -999 | No observation |
| Depth\_cm | Depth | numeric | cm |  | -999 | No observation |
| Velocity\_ms | Velocity | numeric | m/sec |  | -999 | No observation |
| Comments | Comments | character |  |  |  |  |

Data Table(s)

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* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** DischargeGaugeInfo.csv

**Table description:** River discharge rates from USGS gauge stations

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| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| ChannelType | Channel type | character |  |  |  |  |
| ChannelTypeDescr | Channel type description | character |  |  |  |  |
| GaugeSiteNo | Guage site identifier | character |  |  |  |  |
| StreamName | River or stream name | character |  |  |  |  |
| GaugeLocation | Gauge location description | character |  |  |  |  |
| GaugeStationSource | Gauge station owner | character |  |  |  |  |
| Discharge\_cms | Discharge rate | numeric | Cm / sec |  |  |  |
| Comments | Comments | character |  |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

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* **Column Name**: This name must be exactly as it appears in the dataset. Please avoid special characters (like & or \), dashes and spaces. Underscores are permissible. Do not begin a column name with a number.
* **Description**: Please give a specific definition of the column name. This can be lengthy.
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* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** FishCountsThru\_2023.csv

**Table description:** (Add brief description of table contents)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| SamplingGear | Sampling gear codes | character |  |  |  |  |
| ChannelType | Channel type codes | character |  |  |  |  |
| ChannelTypeDescr | Channel type descriptions | character |  |  |  |  |
| SiteNumber | Site number | numeric |  |  |  |  |
| TaxaFishNumber | Field sheet sequence | numeric |  |  |  |  |
| TotalLength\_mm | Length of fish | numeric | mm |  | -999 | No observation |
| Weight\_g | Weight of fish | numeric | g |  | -999 | No observation |
| AnomalyID | Anomaly code | character |  |  |  |  |
| FishAnomalyDescr | Anomaly description | character |  |  |  |  |
| Vouchered | speciman preserved as a voucher; Yes= -1, No=0 | numeric |  |  |  |  |
| NumObs | count of specimens observed during sampling | numeric |  |  |  |  |
| BatchID | Identification number of batch | numeric |  |  | 0 | No batch |
| BatchWT\_g | total weight of fish weighed as a batch | numeric | g |  | -999 | No observation |
| Comments | Comments | character |  |  |  |  |
| TaxonCode | Taxon code | character |  |  |  |  |
| CommonName | Common name | character |  |  |  |  |
| FamilyName | Family | character |  |  |  |  |
| ScientificName | Scientific name | character |  |  |  |  |
| TSN | ITIS TSN identifier | numeric |  |  |  |  |
| ToleranceCode | Tolerance of fish to disturbance | character |  |  |  |  |
| TolaranceDescription | Tolerance description | character |  |  |  |  |
| ReproductiveClassification | Reproductive classification | character |  |  |  |  |
| ReproductiveDescription | Reproductive classification  description | character |  |  |  |  |
| TrophicClassification | Classification of food types consumed by subadults and adults | character |  |  |  |  |
| TrophicDescription | Trophic description | character |  |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

(Provide a Table Name, Table Description, and description of each column in your data table):

* **Column Name**: This name must be exactly as it appears in the dataset. Please avoid special characters (like & or \), dashes and spaces. Underscores are permissible. Do not begin a column name with a number.
* **Description**: Please give a specific definition of the column name. This can be lengthy.
* **Class:** Column class. Valid options are **numeric**, **categorical**, **character**, and **date**.
* **Unit:** Identify units for all numeric variables. Please avoid special characters and describe units in this pattern: e.g., microSiemenPerCentimeter, microgramPerLiter, absorptionPerMolePerCentimeter
* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** FishCoverInfo.csv

**Table description:** Fish habitat cover types and cover class data

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| TransectNumber | Transect number | numeric |  |  |  |  |
| SampleLocation | Sample location | character |  |  |  |  |
| SampleLocationDescr | Sample location description | character |  |  |  |  |
| ChannelType | Channel type code | character |  |  |  |  |
| ChannelTypeDescr | Channel type code  description | character |  |  |  |  |
| HydroMoss\_HY | Hydrophytes and mosses (-1 = present, 0 = absent) | numeric |  |  |  |  |
| Boulders\_BO | boulders (-1 = present, 0 = absent) | numeric |  |  |  |  |
| Artificial\_AR | Artificial cover (-1 = present, 0 = absent) | numeric |  |  |  |  |
| SmallWoodDeb\_SWD | Small woody debris (-1 = present, 0 = absent) | numeric |  |  |  |  |
| LargeWoodDeb\_LWD | Large woody debris (-1 = present, 0 = absent) | numeric |  |  |  |  |
| TreeRoots\_TR | Trees and roots (-1 = present, 0 = absent) | numeric |  |  |  |  |
| OverhangVeg\_OV | Overhanging veetation (-1 = present, 0 = absent) | numeric |  |  |  |  |
| UndercutBank\_UC | Undercut bank (-1 = present, 0 = absent) | numeric |  |  |  |  |
| Bluff\_BL | Bluff within 5 meters of water (-1 = present, 0 = absent) | numeric |  |  |  |  |
| Comments | Comments | character |  |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

(Provide a Table Name, Table Description, and description of each column in your data table):

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* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** FishReachLocations.csv

**Table description:** Reach locations with coodinates and site sampling status

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| Status | Status (Active / Retired) | character |  |  |  |  |
| ReachID | Reach identifier code | character |  |  |  |  |
| ActiveDates | Years active | character |  |  |  |  |
| XstartUTM | Starting (upstream) X UTM coordinate | numeric | m |  |  |  |
| YstartUTM | Starting (upstream) Y UTM coordinate | numeric | m |  |  |  |
| XstartDD | Starting (upstream) longitude coordinate | numeric | Decimal degrees |  |  |  |
| YstartDD | Starting (upstream) latitude coordinate | numeric | Decimal degrees |  |  |  |
| LocationID | LocationID code | character |  |  |  |  |
|  |  |  |  |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

(Provide a Table Name, Table Description, and description of each column in your data table):

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* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** LocationDetails.csv

**Table description:** Crosswalk table between ReachID and LocationID (one-to-one) includes site details

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Location code primary key | character |  |  |  |  |
| LocationNumber | Location number | character |  |  |  |  |
| LocationType | Location type | character |  |  |  |  |
| LocationDescription | Desscription of location | character |  |  |  |  |
| StreamName | Name of river, small stream, or spring | character |  |  |  |  |
| TributaryName | Tributary name | character |  |  |  |  |
| County | County | character |  |  |  |  |
| StretchNumber | GRTS analysis stretch id | numeric |  |  |  |  |
| ReachID | ReachID unique foreign key | character |  |  |  |  |
| ReachLength\_m | Total length of the sample reach in meters (range: 150-1000 meters) | numeric | m |  |  |  |
| StreamWatershedArea\_sqkm | Watershed area | numeric | Square km |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

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* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** ReachConditions.csv

**Table description:** Reach weather and site conditions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| Pct\_CloudCover | Percent cloud cover | numeric |  |  |  |  |
| WindIntensity | Wind intensity description | character |  |  |  |  |
| PrecipitationType | Precipitation type | character |  |  |  |  |
| PrecipitationIntensity | Precipitation intensity | character |  |  |  |  |
| SH\_Springs\_Present | Spring present (Yes = -1, No = 0) | numeric |  |  |  |  |
| SH\_StreamFlow\_Description | Stream flow description | character |  |  |  |  |
| WeatherComments | Weather comments | character |  |  |  |  |
| AdditionalComments | Additional comments | character |  |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

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* **Column Name**: This name must be exactly as it appears in the dataset. Please avoid special characters (like & or \), dashes and spaces. Underscores are permissible. Do not begin a column name with a number.
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* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** ReachMeasurements.csv

**Table description:** Reach discrete water quality measurements

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| SiteNumber | Site number | numeric |  |  |  |  |
| TimeSampled\_hhmm\_mil | hh:mm:ss in military time | date |  | hh:mm:ss |  |  |
| WaterTemp\_C | Water temperature | numeric | C |  | -999 | No observation |
| AirTemp\_C | Air temperature | numeric | C |  | -999 | No observation |
| pH | pH | numeric |  |  | -999 | No observation |
| SpecificConductance\_microScm | Specific conductance | numeric | microsiemens per cm |  | -999 | No observation |
| Conductivity\_microScm | Conductivity of water | numeric | microsiemens per cm |  | -999 | No observation |
| DissolvedOxygen\_mgL | Dissolved oxygen | numeric | milligrams per liter |  | -999 | No observation |
| SecchiTube | Turbidity | numeric |  |  | -999 | No observation |

(Copy this table to document more than one data table.)

Data Table(s)

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* **Column Name**: This name must be exactly as it appears in the dataset. Please avoid special characters (like & or \), dashes and spaces. Underscores are permissible. Do not begin a column name with a number.
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* **Date Time Format**: Please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed. ISO 8601 date format of YYYY-MM-DD or YYYY-MM-DD hh:mm:ss is preferred.
* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** SamplingPeriodsAndEvents.csv

**Table description:** Sampling period and sampling event codes (EventID is primary key)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| PeriodID | Sampling season | character |  |  |  |  |
| Season | Year of Sampling Period Start Date | date |  | yyyy |  |  |
| SamplingPeriods\_StartDate | Start date of sampling period (sampling season) | date |  | mm/dd/yyyy |  |  |
| SamplingPeriods\_EndDate | End date of sampling period (sampling season) | date |  | mm/dd/yyyy |  |  |
| EventID | EventID code (primary key) | character |  |  |  |  |
| SamplingEvents\_StartDate | Start date of sampling event (sampling visit) | date |  | mm/dd/yyyy |  |  |
| SamplingEvents\_EndDate | End date of sampling event (sampling visit) | date |  | mm/dd/yyyy |  |  |
| EventsComments | Event (sampling visit) comments | character |  |  |  |  |

(Copy this table to document more than one data table.)

Data Table(s)

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* **Column Name**: This name must be exactly as it appears in the dataset. Please avoid special characters (like & or \), dashes and spaces. Underscores are permissible. Do not begin a column name with a number.
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* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** SeineDaubenmireCoverClasses

**Table description:** Daubenmire cover class look-up table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| DaubenmireCoverCode | Daubenmire Cover Code (primary key) | numeric |  |  | -999 | No observation |
| DaubenmireCoverDesc | Daubenmire Cover Description | character |  |  |  |  |
| DaubenmireCoverMidPoint | Daubenmire Cover MidPoint | numeric |  |  | -999 | No observation |
|  |  |  |  |  |  |  |
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Data Table(s)

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* **Description**: Please give a specific definition of the column name. This can be lengthy.
* **Class:** Column class. Valid options are **numeric**, **categorical**, **character**, and **date**.
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* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** SeineRiparianCorridor.csv

**Table description:** Riparian cover types to be joined with SeineRiparianCoverTypes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| ChannelType | Channel Type Codes | character |  |  |  |  |
| SiteNumber | Site number | numeric |  |  |  |  |
| SampleLocation | Sample location | character |  |  |  |  |
| RiparianCover\_0to25\_m | Riparian cover type from 0 to 25 meters from bank | numeric |  |  |  |  |
| RiparianCover\_26to50\_m | Riparian cover type from 26 to 50 meters from bank | numeric |  |  |  |  |
| RiparianCover\_51to75\_m | Riparian cover type from 51 to 75 meters from bank | numeric |  |  |  |  |
| RiparianCover\_76to100\_m | Riparian cover type from 76 to 100 meters from bank | numeric |  |  |  |  |
| RiparianCover\_GT100\_m | Riparian cover type from 51 to 75 meters from bank | numeric |  |  |  |  |
| StreamBankErosionCover | Streambank Erosion Daubenmire cover class code | numeric |  |  |  |  |

(Copy this table to document more than one data table.)

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* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** SeineRiparianCoverTypes.csv

**Table description:** Riparian cover types lookup table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| RiparianVegCoverCodeCode | Riparian vegetation cover code | numeric |  |  | -999 | No observation |
| RiparianVegCoverDescr | Riparian vegetation cover code  description | character |  |  |  |  |
|  |  |  |  |  |  |  |
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* **Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999
* **Missing Value Code Explanation**: Definition of missing value code.

**Table name:** SeineStreamSubstrate.csv

**Table description:** Stream substrate types and associated Daubenmire cover class values

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| LocationID | Foreign key for location | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| ChannelType | Channel Type Codes | character |  |  |  |  |
| SiteNumber | Site number | numeric |  |  |  |  |
| Season | Year at beginning of sample season | date |  | yyyy |  |  |
| Muck | Daubenmire cover class: muck | numeric |  |  | -999 | No observation |
| Detritus | Daubenmire cover class: detritus | numeric |  |  | -999 | No observation |
| Silt | Daubenmire cover class: silt | numeric |  |  | -999 | No observation |
| Sand | Daubenmire cover class: sand | numeric |  |  | -999 | No observation |
| Pea\_gravel | Daubenmire cover class: pea gravel | numeric |  |  | -999 | No observation |
| Course\_gravel | Daubenmire cover class: course gravel | numeric |  |  | -999 | No observation |
| Cobble | Daubenmire cover class: cobble | numeric |  |  | -999 | No observation |
| Boulder | Daubenmire cover class: bpulder | numeric |  |  | -999 | No observation |
| Bedrock | Daubenmire cover class: bedrock | numeric |  |  | -999 | No observation |
| Hardpan\_shale | Daubenmire cover class: hardpan\_shale | numeric |  |  | -999 | No observation |

(Copy this table to document more than one data table.)

**Data Table(s)**

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**Unit:** Identify units for all numeric variables. Please avoid special characters and describe units in this pattern: e.g., microSiemenPerCentimeter, microgramPerLiter, absorptionPerMolePerCentimeter

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**Missing Value Code**: If a code for ‘no data’ is used, please specify: e.g., -99999

**Missing Value Code Explanation**: Definition of missing value code.

**Table name:** TransectSpacingInterval.csv

**Table description:** Transect spacing intervals associated with sample locations

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column name** | **Description** | **Class** | **Unit** | **Date Time Format** | **Missing Value Code** | **Missing Value Code Explanation** |
| ParkName | Park name | character |  |  |  |  |
| ParkCode | Park unit code | character |  |  |  |  |
| LocationID | Foreign key for location | character |  |  |  |  |
| PeriodID | Foreign key for sampling season | character |  |  |  |  |
| EventID | Foreign key for sampling visit | character |  |  |  |  |
| ChannelType | Channel type codes | character |  |  |  |  |
| ChannelTypeDescr | Channel type descriptions | character |  |  |  |  |
| ChannelTypeSampledLength\_m | Total length of the channel type sampled in meters (range 1-100m) | numeric | m |  |  |  |
| NumberOfTransects | Number of transects within the sampled channel type (range 1-11) | numeric |  |  |  |  |
| TransectSpacingInterval\_m | Interval length in meters between transects within the sampled channel type (range 10-100m) | numeric | m |  |  |  |

(Copy this table to document more than one data table.)

Data Release Report (DRR)

(Indicate whether there is an associated DRR with your data package.)

No  Yes, it already exists  Yes, plan to generate one with the Data Strike Team

(If you have a DRR and there is an existing reference for it on DataStore, fill out the table below. Otherwise, you can skip this step.)

|  |  |
| --- | --- |
| **DRR Title** | **DRR Reference Number (from DataStore)** |
|  |  |

Additional notes and comments

|  |
| --- |
|  |