Oregon/Washington Bureau of Land Management

Fish Distribution

Spatial Data Standard

Coho spawning on the Salmon River, NW Oregon. Photo by BLM, November 2014.

Version 2.0 **June 30, 2025**

Document Revisions

Revision	Date	Author	Description	Affected Pages
1.0	9/11/2017	Dana Baker-Allum, et al.	Initial Release	All
1.1	6/9/2020	Dana Baker-Allum	Fish External Presence domain updated.	A.2
1.2	9/25/2020	Dana Baker-Allum	Fish External Presence domain updated.	A.2
2.0	6/30/2025	Dana Baker-Allum	Reformatted document to meet Section 508 standards and match the latest data standard template. Updated section 1 to make it comply with the new data structure. Updated FOIA category, records retention schedule text, and keywords. Corrected sponsor. Updated architecture diagrams. Added field aliases, edit tracking fields, and default values for required fields. Updated publication dataset section to match current document conventions. Added attribute rules to editing procedures. Dropped attributes related to USGS data structure and tools as they are no longer used. Updated privacy impact assessment.	All

Navigation

This document is easier to view if the Microsoft Word Navigation pane is displayed (View -> Navigation Pane). If viewing in PDF format, open the document in Acrobat and click the Contents button.

This document uses hyperlinks to display additional information on topics. External links are displayed with an underline. Internal links are blue text, not underlined. After clicking on an internal link, press the Alt + Left Arrow keys to return to the original location from the target location.

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1 General Information

The Fish Distribution dataset represents spatial location and basic information about the presence of fish by species. This dataset includes:

- Resident Fish – fish that do not migrate out to the ocean but remain in freshwater.
- Anadromous Fish – fish that migrate up rivers from the sea to breed in freshwater.
- Non-Native Fish – fish that are not native to the system.

Most of the historical data comes primarily from the Hydro Update Project and is information on actual or modeled fish presence. While each district determined fish presence in various ways, generally verification means that the fish biologist or other trained specialist was able to see fish at the stream. There is also additional data from actual observations. In 2017, BLM staff coordinated with partner agencies to integrate Fish Distribution data to improve data quality. Much of the data in the Resident and Anadromous layers was updated as part of this process.

- Dataset (Theme) Name: Fish Distribution
- Dataset (Feature Class): FISH_ANADROMOUS_ARC, FISH_RESIDENT_ARC, FISH_NON_NATIVE_ARC, FISH_ANADROMOUS_POLY, FISH_RESIDENT_POLY, FISH_NON_NATIVE_POLY

1.1 Roles and Responsibilities

To find the latest contact information for the employees assigned to these roles, see https://www.blm.gov/about/data/oregon-data-management.

- State Data Steward - the State Data Steward responsibilities include approving data standards and business rules, developing Quality Assurance/Quality Control procedures, identifying potential Privacy issues, and managing that data as a corporate resource. The State Data Steward coordinates with field office data stewards, the State Data Administrator, Geographic Information System (GIS) coordinators, and national data stewards. The State Data Steward reviews geospatial metadata for completeness and quality.
- GIS Technical Lead - the GIS Technical Lead works with data stewards to convert business needs into GIS applications and derive data requirements and participates in the development of data standards. The GIS technical lead coordinates with system administrators and GIS coordinators to manage the GIS databases. The GIS technical lead works with data editors to ensure the consistency and accordance with the established data standards of data input into the enterprise Spatial Database Engine (SDE) geodatabase. The GIS technical lead provides technical assistance and advice on GIS analysis, query, and display of the dataset.
- State Data Administrator - the State Data Administrator provides information management leadership, data modeling expertise, and custodianship of the state data models. The State Data Administrator ensures compliance with defined processes for development of data standards and metadata, and process consistency and completeness. The State Data Administrator is responsible for making data standards and metadata accessible to all users. The State Data Administrator coordinates with data stewards and GIS coordinators to respond to national spatial data requests.
- State FOIA/Privacy Act Team Lead - the State FOIA/Privacy Act team lead assists the state data steward to identify any privacy issues related to spatial data. The State FOIA/Privacy Act team lead also provides direction and guidance on data release, fees, and classification under the appropriate Freedom of Information Act exemption.
- State Records Administrator - the state records administrator classifies data under the proper records retention schedule.

1.2 FOIA Category

These data fall under the standard Records Access Category 1B - BLM Records that may contain protected information that must be considered for segregation prior to release. See section 8 for more information on which data are available to the public.

1.3 Records Retention Schedule

The DRS/GRS/BLM Combined Records Schedule, under Schedule **20/52a2** (Electronic Records/Geographic Information Systems), lists this theme, **Fish Distribution (species specific information)**, as one of the system-centric themes that are significant for BLM's mission that must be permanently retained.

"PERMANENT. Cutoff at the end of each Fiscal Year (FY) or when significant changes and additions have been made, before and after the change. Use BLM 20/52a. Transfer to the National Archives every three years after cutoff. Under the instruction in 36 CFR 1235.44-50 or whichever guidance is in place at the time of the transfer. Submissions are full datasets and are in addition to, not replacements of, earlier submissions."

Oregon/Washington (OR/WA) Bureau of Land Management (BLM) Guidebook for Management of Geospatial Data (v1) Section 15.2 - Corporate Data Online Archives prescribes:

Vector annual archives are retained online for 12 years. Each year, data that has reached 12 years old is copied off-line to be retained until no longer needed (determined by data stewards and program leads) with format and readability maintained in a five (5) year "tech refresh" update cycle."

1.4 Security/Access/Sensitivity

The Fish Distribution theme does not require any additional security other than that provided by the General Support System (the hardware/software infrastructure of the OR/WA BLM).

This dataset is not sensitive and there are no internal restrictions on access to this data. This dataset falls under the standard Records Access Category 1B - BLM Records that may contain protected information that must be considered for segregation prior to release.

There are no privacy issues or concerns associated with these data themes. A privacy impact assessment was submitted for this dataset on 6/30/2025.

1.5 Keywords

Keywords that can be used to locate this dataset include:

- BLM Thesaurus: Wildlife, Hydrology
- Additional keywords: Fish, fisheries, anadromous, resident, non-native, invasive, aquatic, riparian, wetlands, lotic, lentic, streams, rivers, creeks, reservoirs, lakes, periodicity, continuity, stream order, streamflow, planflow, headwaters, inception.
- ISO Thesaurus: biota, environment, inlandWaters

1.6 Subject Function Codes

BLM Subject Function codes used to describe this dataset include:

- 1283 - Data Administration
- 6720 – Aquatic Resource Management

- 6762 – Stream Management
- 9167 - Geographic Information System (GIS)

2 Dataset Overview

2.1 Usage

Fish Distribution data informs resource management planning, project level National Environmental Policy Act (NEPA) analysis, Endangered Species Act (ESA) Section 7 consultation analysis, and restoration planning. Riparian Reserve land use allocations are designated on federal lands by Resource Management Plans (RMP) and vary in width, depending on fish distribution as well as stream periodicity. ESA Recovery Actions and habitat restoration activities rely on Fish Distribution data that extends across land ownerships.

2.2 Sponsor/Affected Parties

The sponsor for this data set is the Deputy State Director for the Division of Resources, Lands, and Minerals.

Fish distribution data has historically been matched across jurisdictional boundaries and coordinated with partner agencies and organization. Affected parties include (but may not be limited to):

- State of Oregon - Department of Fish and Wildlife
- State of Washington - Department of Fish and Wildlife

The Fish Distribution data can be located on BLM and private land. BLM incorporates other agency data, such as fish distribution information from the Oregon Department of Fish and Wildlife (ODFW). The goal is to match BLM, ODFW and other agency data across the landscape. Our non-governmental partners and the general public are affected to the extent that Fish Distribution data affects land use allocation on federal lands that determine BLM management of those lands. Fish distribution determines several aspects of RMP implementation because of potential impacts to the fisheries resources.

2.3 Relationship to Other Datasets, Databases, or Files

Within the Oregon Data Framework, this dataset is related to other datasets, including:

- Hydrography - fish presence information recorded by species is spatially related to the Hydrography dataset. Features from this dataset may be copied to the Fish dataset. It is recommended that these features stay in alignment to support data analysis. Fish distribution data is used to derive the Hydrography Fishbearing attribute on streams, reservoirs and lakes. The presence of fish has an impact on the riparian buffers which, in turn, impact allowable projects and actions within the buffers. Especially in Western Oregon, non-perennial streams with fish impacts the allowable timber cut, the size of culverts under roads and other projects on public lands.
- Fish Sample - Fish Sample point features, typically field collected, can be used to update this dataset.

2.4 Data Category/Architecture Link

This data theme is a portion of the Oregon Data Framework (ODF) shown in Figure 1, Oregon Data Framework (ODF) Overview on page 9. The illustration is a simplified schematic of the entire ODF showing the overall organization and entity inheritance. The ODF utilizes the concept of inheritance to define specific instances of data. The ODF divides all OR/WA resource-related data into three general categories:

- Activities
- Resources
- Boundaries

These general categories are broken into sub-categories that inherit spatial characteristics and attributes from their parent category. These sub-categories may be further broken into more specific groups until the basic data set cannot be further sub-divided. Those basic data sets inherit all characteristics of all groups/categories above them. The basic data sets are where physical data gets populated. Those groups/categories above them do not contain actual data but set parameters which all data of that type must follow.

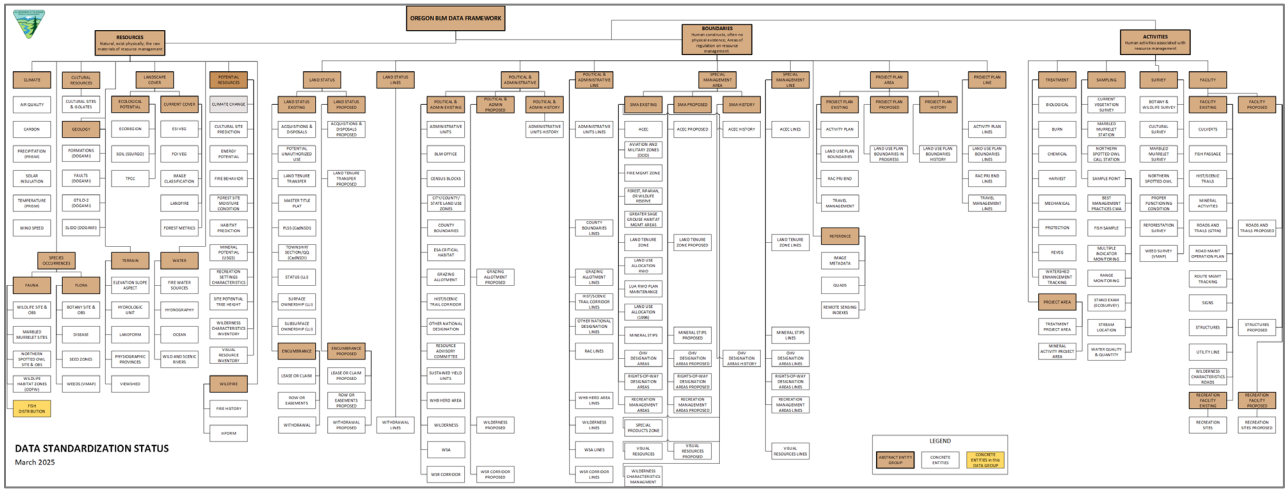

Figure 1 Oregon Data Framework Overview

For an easier to view version of the Oregon Data Framework diagram, go to: https://gis.blm.gov/ORDownload/DataFramework/BLM_ODF_Model_Mini_Status.pdf.

Physical data is populated in the basic data sets. Those groups/categories above them do not contain actual data but set parameters that all data of that type must follow. See Figure 2, Data Organization Structure for a simplified schematic of the entire ODF showing the overall organization and entity inheritance. The Fish Distribution entities are highlighted. For additional information about the ODF, contact the State Data Administrator. The State Data Administrator's contact information can be found at the following link: https://www.blm.gov/about/data/oregon-data-management.

In the ODF, Fish Distribution is considered a Resource and categorized as follows:

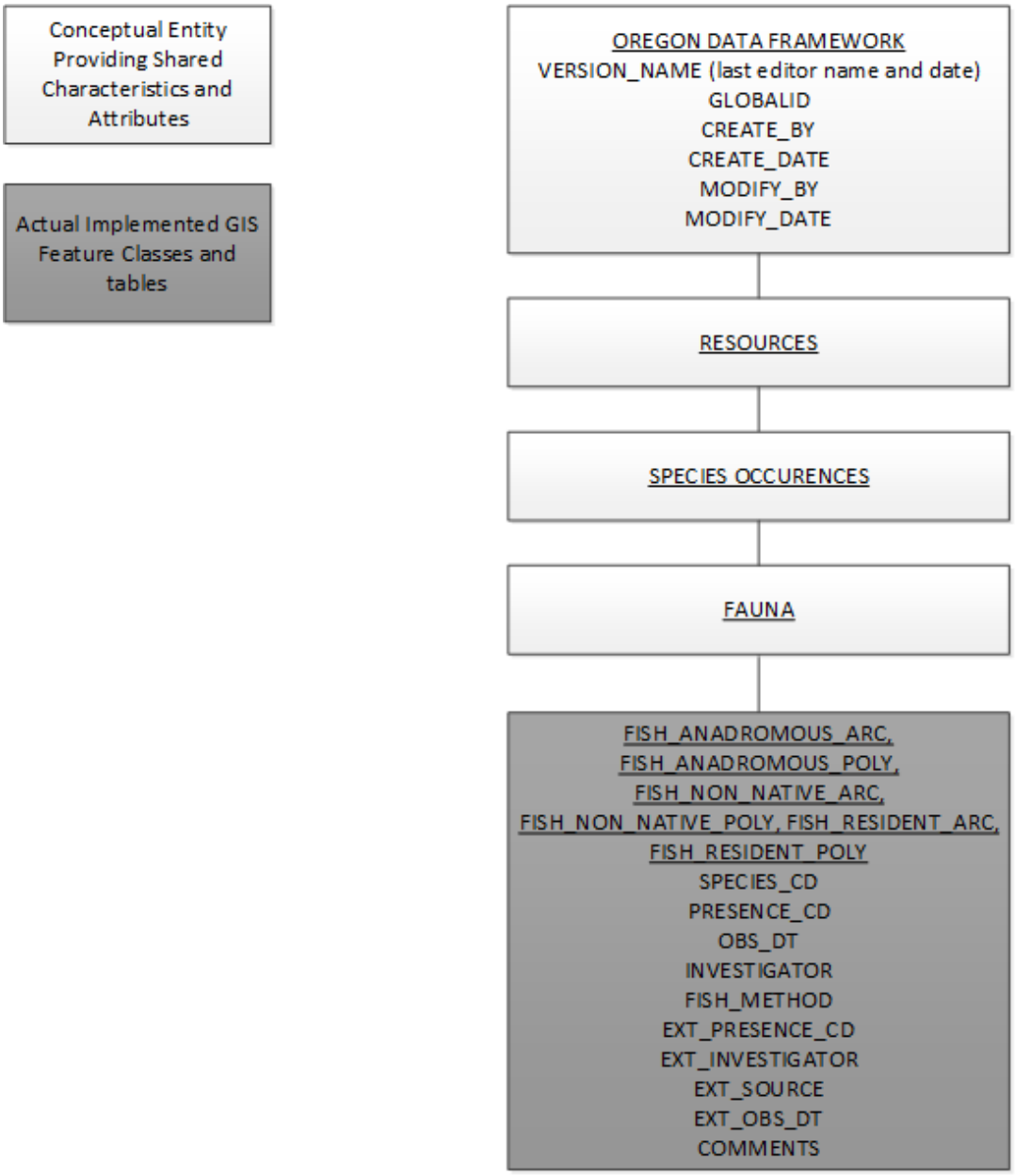

Figure 2 Data Organization Structure

2.5 Relationship to DOI Enterprise Architecture Data Resource Mode

The Department of the Interior (DOI) Enterprise Architecture contains a component called the Data Resource Model. This model addresses the concepts of data sharing, data description, and data context. This data standard provides information needed to address each of those areas. Data sharing is addressed through complete documentation and simple data structures which make sharing easier. Data description is addressed through the section on Attribute Descriptions. Data context is addressed through the data organization and structure portions of this document. In addition, the DOI Data Resource Model categorizes data by use of standardized Data Subject Areas and Information Classes. For this data set, the Data Subject Area and Information Class are:

- Data Subject Area: Geospatial
- Information Class: Location

3 Data Management Protocols

3.1 Accuracy Requirements

This dataset inherits its geometry and accuracy from the Hydrography dataset. Accuracy is, however, variable because of a wide variety of sources. Over time, the accuracy will continue to improve as improvements are made to the accuracy of the NHD.

3.2 Collection, Input, and Maintenance Protocols

Data will be created, as needed, by natural resource and GIS staff using GIS software. Trained editors will use the OR/WA Version Management tools to automatically load the correct editable layers to the user's map document and perform a wide range of valuable background processes to improve data integrity. The version check-in process performs data quality checks before allowing the user to submit their version. Please see Section 9 Editing Procedures for additional editing guidance.

Note regarding Coastal Cutthroat Trout: while this species can be both an Anadromous and Resident fish, a decision was made to only record data in the Resident feature classes.

3.3 Update Frequency and Archival Protocols

Data is updated as needed, but at least annually. In addition, it is archived annually at the end of the fiscal year.

3.4 Statewide Monitoring

The State Data Stewards are responsible for checking consistency and completeness across districts for the theme(s) that is relevant to their programs.

Each year, geospatial staff of the BLM Division of Resources, Lands, and Minerals meets with each state data steward for every corporate geospatial theme to conduct an annual review of the data. During the annual review, geospatial staff present the state data stewards with a report detailing Quality Assurance/Quality Control (QAQC) results performed on the data. The QAQC does the following:

- Checks that all attribute values conform to the range or coded-value domains to which they are applied.
- Checks that all attributes marked as required in the data standard have values.
- Checks for duplicate features which have the same geometry and attributes.
- Checks for overlapping features if forbidden by the data standard.
- Checks for invalid geometry.
- Other checks as necessary (can be customized according to the data standard).

In addition to this report, geospatial staff conduct a qualitative needs assessment with the steward to identify any unmet needs or problems with the status of the data. At the conclusion of the review, the team records the steward's approvals of the datasets reviewed. These approvals are then added to the corporate metadata.

4 Fish Distribution Schema (simplified)

General Information: Attributes are listed in the order they appear in the geodatabase feature class. The order is an indication of the importance of the attribute for theme definition and use. There are no aliases unless specifically noted. The domains used in this data standard can be found in Appendix A. These are the domains at the time the data standard was approved. Domains can be changed without a re-issue of the data standard. Current domains are found on the internal OR/WA SharePoint data management page. Some of the domains used in this data standard are also available at the following web site: https://www.blm.gov/about/data/oregon-data-management.

For domains not listed at that site contact: State Data Administrator.

4.1 FISH_ANADROMOUS_ARC Feature Class (Fish Anadromous Distribution Lines)

For domain and default values, see Section 7 Attribute Characteristics and Definition (In alphabetical order) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
SPECIES_CD	String	10		Yes	dom_FISH_ANADROMOUS
PRESENCE_CD	String	3		Yes	dom_FISH_PRESENCE
OBS_DT	Date			Yes	
INVESTIGATOR	String	30		Yes	
FISH_METHOD	String	30		Yes	dom_FISH_METHOD
EXT_PRESENCE_CD	String	50		No	dom_FISH_EXTPRESENCE
EXT_INVESTIGATOR	String	30		No	
EXT_SOURCE	String	50		No	
EXT_OBS_DT	Date			No	
COMMENTS	String	1000		No	
VERSION_NAME	String	50		Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through versioning tools, may appear not required in database

4.2 FISH_ANADROMOUS_POLY Feature Class (Fish Anadromous Distribution Polygons)

For domain and default values, see Section 7 Attribute Characteristics and Definition (In alphabetical order) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
SPECIES_CD	String	10		Yes	dom_FISH_ANADROMOUS
PRESENCE_CD	String	3		Yes	dom_FISH_PRESENCE
OBS_DT	Date			Yes	
INVESTIGATOR	String	30		Yes	
FISH_METHOD	String	30		Yes	dom_FISH_METHOD
EXT_PRESENCE_CD	String	50		No	dom_FISH_EXTPRESENCE
EXT_INVESTIGATOR	String	30		No	
EXT_SOURCE	String	50		No	
EXT_OBS_DT	Date			No	
COMMENTS	String	1000		No	
VERSION_NAME	String	50		Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

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4.3 FISH_NON_NATIVE_ARC Feature Class (Fish Non-Native Distribution Lines)

For domain and default values, see Section 7 Attribute Characteristics and Definition (In alphabetical order) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
SPECIES_CD	String	10		Yes	dom_FISH_NONNATIVE
PRESENCE_CD	String	3		Yes	dom_FISH_PRESENCE
OBS_DT	Date			Yes	
INVESTIGATOR	String	30		Yes	
FISH_METHOD	String	30		Yes	dom_FISH_METHOD
EXT_PRESENCE_CD	String	50		No	dom_FISH_EXTPRESENCE
EXT_INVESTIGATOR	String	30		No	
EXT_SOURCE	String	50		No	
EXT_OBS_DT	Date			No	
COMMENTS	String	1000		No	

Attribute Name	Data Type	Length	Default Value	Required	Domain
VERSION_NAME	String	50		Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

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4.4 FISH_NONNATIVE_POLY Feature Class (Fish Non-Native Distribution Polygons)

For domain and default values, see Section 7 Attribute Characteristics and Definition (In alphabetical order) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
SPECIES_CD	String	10		Yes	dom_FISH_NONNATIVE
PRESENCE_CD	String	3		Yes	dom_FISH_PRESENCE
OBS_DT	Date			Yes	
INVESTIGATOR	String	30		Yes	
FISH_METHOD	String	30		Yes	dom_FISH_METHOD
EXT_PRESENCE_CD	String	50		No	dom_FISH_EXTPRESENCE
EXT_INVESTIGATOR	String	30		No	
EXT_SOURCE	String	50		No	
EXT_OBS_DT	Date			No	
COMMENTS	String	1000		No	
VERSION_NAME	String	50		Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through versioning tools, may appear not required in database

4.5 FISH_RESIDENT_ARC Feature Class (Fish Resident Distribution Lines)

For domain and default values, see Section 7 Attribute Characteristics and Definition (In alphabetical order) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
SPECIES_CD	String	10		Yes	dom_FISH_RESIDENT
PRESENCE_CD	String	3		Yes	dom_FISH_PRESENCE
OBS_DT	Date			Yes	
INVESTIGATOR	String	30		Yes	
FISH_METHOD	String	30		Yes	dom_FISH_METHOD
EXT_PRESENCE_CD	String	50		No	dom_FISH_EXTPRESENCE
EXT_INVESTIGATOR	String	30		No	
EXT_SOURCE	String	50		No	
EXT_OBS_DT	Date			No	
COMMENTS	String	1000		No	
VERSION_NAME	String	50		Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through versioning tools, may appear not required in database

4.6 FISH_RESIDENT_POLY Feature Class (Fish Resident Distribution Polygons)

For domain and default values, see Section 7 Attribute Characteristics and Definition (In alphabetical order) in this document.

Attribute Name	Data Type	Length	Default Value	Required	Domain
SPECIES_CD	String	10		Yes	dom_FISH_RESIDENT
PRESENCE_CD	String	3		Yes	dom_FISH_PRESENCE
OBS_DT	Date			Yes	
INVESTIGATOR	String	30		Yes	
FISH_METHOD	String	30		Yes	dom_FISH_METHOD
EXT_PRESENCE_CD	String	50		No	dom_FISH_EXTPRESENCE

Attribute Name	Data Type	Length	Default Value	Required	Domain
EXT_INVESTIGATOR	String	30		No	
EXT_SOURCE	String	50		No	
EXT_OBS_DT	Date			No	
COMMENTS	String	1000		No	
VERSION_NAME	String	50		Yes ***	
GLOBALID	GUID			Yes *	
CREATE_BY	String	50		No *	
CREATE_DATE	Date			No *	
MODIFY_BY	String	50		No *	
MODIFY_DATE	Date			No *	

* Values automatically generated

** Enforced during quality control, may appear in data as not required

*** Maintained through versioning tools, may appear not required in database

5 Projection and Spatial Extent

All feature classes and feature datasets are in Geographic, North American Datum 83. Units are decimal degrees. Spatial extent (area of coverage) includes all lands managed by the BLM OR/WA. See the metadata for this data for a more precise description of the extent.

6 Spatial Entity Characteristics

- FISH_ANADROMOUS_ARC
  - Description: Instance of Species Occurrences with the Resources group.
  - Geometry: Lines
  - Topology: No topology enforced. Overlapping features are allowed.
  - Integration Requirements: Line segments must be coincident with the Hydrography line dataset.
- FISH_ANADROMOUS_POLY
  - Description: Instance of Species Occurrences with the Resources group.
  - Geometry: Polygons. Simple polygons, not multi-part, are used.
  - Topology: No topology enforced. Overlapping features are allowed.
  - Integration Requirements: Line segments must be coincident with the Hydrography waterbody dataset.
- FISH_NON_NATIVE_ARC
  - Description: Instance of Species Occurrences with the Resources group.
  - Geometry: Lines
  - Topology: No topology enforced. Overlapping features are allowed.

  - Integration Requirements: Line segments must be coincident with the Hydrography line dataset.

- FISH_NON_NATIVE_POLY
  - Description: Instance of Species Occurrences with the Resources group.
  - Geometry: Polygons. Simple polygons, not multi-part, are used.
  - Topology: No topology enforced. Overlapping features are allowed.
  - Integration Requirements: Line segments must be coincident with the Hydrography waterbody dataset.
- FISH_RESIDENT_ARC
  - Description: Instance of Species Occurrences with the Resources group.
  - Geometry: Lines
  - Topology: No topology enforced. Overlapping features are allowed.
  - Integration Requirements: Line segments must be coincident with the Hydrography line dataset.
- FISH_RESIDENT_POLY
  - Description: Instance of Species Occurrences with the Resources group.
  - Geometry: Polygons. Simple polygons, not multi-part, are used.
  - Topology: No topology enforced. Overlapping features are allowed.
  - Integration Requirements: Line segments must be coincident with the Hydrography waterbody dataset.

7 Attribute Characteristics and Definition (In alphabetical order)

7.1 COMMENTS

Geodatabase Name	COMMENTS
BLM Structured Name	Comments_Text
Inheritance	Not Inherited
Alias Name	Comments
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	Free text for comments about the feature.
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (1000)

7.2 CREATE_BY

Geodatabase Name	CREATE_BY
BLM Structured Name	Record_Created_By_Text
Inheritance	Inherited from entity ODF
Alias Name	Created By
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	The BLM login ID of the person who entered the data. The default value for this field is UNK. This field is auto populated during editing.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: jdoe, msmith
Data Type	String (50)

7.3 CREATE_DATE

Geodatabase Name	CREATE_DATE
BLM Structured Name	Record_Created_Date
Inheritance	Inherited from entity ODF
Alias Name	Created Date
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY

Definition	The date the record was entered. The default value for this field is 1/1/8888. This field is auto populated during editing.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 1/5/1999, 10/15/2021
Data Type	Date

7.4 EXT_INVESTIGATOR

Geodatabase Name	EXT_INVESTIGATOR
BLM Structured Name	Fish_Distribution_External_Investigator_Text
Inheritance	Not Inherited
Alias Name	External Investigator
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	Name of the surveyor/observer (if available). The field is only populated if data was acquired from a non-BLM source. This field should not be edited.
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (30)

7.5 EXT_OBS_DT

Geodatabase Name	EXT_OBS_DT
BLM Structured Name	Fish_Distribution_External_Observation_Date
Inheritance	Not Inherited
Alias Name	External Obs Date
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	Date of field verification or other habitat/species determination. The field is only populated if data was acquired from a non-BLM source. This field should not be edited.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 5/12/2004, 10/1/1997
Data Type	Date

7.6 EXT_PRESENCE_CD

Geodatabase Name	EXT_PRESENCE_CD
BLM Structured Name	Fish_Distribution_External_Presence_Code
Inheritance	Not Inherited
Alias Name	External Presence
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	Records the basis for making the determination of fish habitat distribution. The field is only populated if data was acquired from a non-BLM source. This field should not be edited.
Required/Optional	Optional
Domain (Valid Values)	dom_FISH_EXTPRESENCE
Data Type	String (50)

7.7 EXT_SOURCE

Geodatabase Name	EXT_SOURCE
BLM Structured Name	Fish_Distribution_External_Source_Text
Inheritance	Not Inherited
Alias Name	External Source
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	Name of the agency, entity, or project (outside the BLM) from which the data was acquired. The field is only populated if data was acquired from a non-BLM source. This field should not be edited.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: “ODF”, “PSMFC”, “ODFW,BLM,USFS”
Data Type	String (50)

7.8 FISH_METHOD

Geodatabase Name	FISH_METHOD
BLM Structured Name	Fish_Distribution_Method_Code
Inheritance	Not Inherited
Alias Name	Method
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY

Definition	Method used to collect the fish species.
Required/Optional	Required
Domain (Valid Values)	dom_FISH_METHOD
Data Type	String (30)

7.9 GLOBALID

Geodatabase Name	GLOBALID
BLM Structured Name	Global_Unique_Identifier
Inheritance	Inherited from entity ODF
Alias Name	None
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	An alpha-numeric code that serves as the universal and unique identifier for each feature within the feature class or table of a geodatabase. Software generated value. A field of type UUID (Universal Unique Identifier) in which values are automatically assigned by the geodatabase when a row is created. This field is not editable and is automatically populated when it is added for existing data.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: {4747B796-44B4-4628-B069-2D496422E59F}
Data Type	GUID

7.10 INVESTIGATOR

Geodatabase Name	INVESTIGATOR
BLM Structured Name	Investigator_Name
Inheritance	Not Inherited
Alias Name	Investigator
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	Name (mixed case, first and last) of the subject matter specialist most knowledgeable about the site. The contact person.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: Mary Smith, John Doe
Data Type	String (30)

7.11 MODIFY_BY

Geodatabase Name	MODIFY_BY
BLM Structured Name	Record_Last_Modified_By_Text
Inheritance	Inherited from entity ODF
Alias Name	Modified By
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	The BLM login ID of the person who last edited the data. The default value for this field is UNK. This field is auto populated during editing.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: jdoe, msmith
Data Type	String (50)

7.12 MODIFY_DATE

Geodatabase Name	MODIFY_DATE
BLM Structured Name	Record_Last_Modified_Date
Inheritance	Inherited from entity ODF
Alias Name	Modified Date
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	The date the record was last edited. The default value for this field is 1/1/8888. This field is auto populated during editing.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: 1/5/1999, 10/15/2021
Data Type	Date

7.13 OBS_DT

Geodatabase Name	OBS_DT
BLM Structured Name	Fish_Distribution_Observation_Date
Inheritance	Not Inherited
Alias Name	Obs Date
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	The date the information was collected. For values that can only be described to the month, enter MM/01/YYYY. For values that can only be described to the year, enter 01/01/YYYY.

Required/Optional	Required
Domain (Valid Values)	No Domain. Example: 5/1/2017
Data Type	Date

7.14 PRESENCE_CD

Geodatabase Name	PRESENCE_CD
BLM Structured Name	Fish_Distribution_Presence_Code
Inheritance	Not Inherited
Alias Name	Presence
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	Indicates if the fish species is present or absent at the feature.
Required/Optional	Required
Domain (Valid Values)	dom_FISH_PRESENCE
Data Type	String (3)

7.15 SPECIES_CD

Geodatabase Name	SPECIES_CD
BLM Structured Name	Fish_Distribution_Species_Code
Inheritance	Not Inherited
Alias Name	Species Code
Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	The code for the fish species associated with the distribution record.
Required/Optional	Required
Domain (Valid Values)	dom_FISH_ANADROMOUS dom_FISH_NONNATIVE dom_FISH_RESIDENT
Data Type	String (10)

7.16 VERSION_NAME

Geodatabase Name	VERSION_NAME
BLM Structured Name	Geodatabase_Version_Text
Inheritance	Inherited from entity ODF
Alias Name	Version Name

Feature Class Use/Entity Table	FISH_ANADROMOUS_ARC, FISH_ANADROMOUS_POLY, FISH_NON_NATIVE_ARC, FISH_NON_NATIVE_POLY, FISH_RESIDENT_ARC, FISH_RESIDENT_POLY
Definition	Only appears in the transactional (edit) version. Public version (which is also the version used internally for mapping or analysis) does not contain this attribute. Name of the corporate geodatabase version previously used to edit the record. InitialLoad = feature has not been edited in ArcSDE. Format: username.XXX-mmddyy-hhmmss = version name of last edit (hours might be a single digit; leading zeros are trimmed for hours only). XXX=theme abbreviation.
Required/Optional	Optional
Domain (Valid Values)	No domain
Data Type	String (50)

8 Publication Views

8.1 General

Master corporate feature classes/datasets maintained in the edit database are "published" to the user database in several ways:

- Copied completely with no changes (replicated).
- Copied with no changes except to omit one or more feature classes from a feature dataset.
- Minor changes made (e.g., clip, dissolve, union with ownership) to make the data easier to use. Feature classes that have been changed are indicated by "PUB" in their name. They are created through scripts that can be automatically executed and are easily rebuilt from the master data whenever necessary.

8.2 Specific to This Dataset

An internal publication dataset will be created that meets these requirements:

- Remove fields used for edit tracking: VERSION_NAME, CREATE_BY, CREATE_DATE, MODIFY_BY, MODIFY_DATE.

An external publication dataset will be created that meets these requirements:

- Remove fields used for edit tracking: VERSION_NAME, CREATE_BY, CREATE_DATE, MODIFY_BY, MODIFY_DATE.
- Remove fields that reference staff names: EXT_INVESTIGATOR, INVESTIGATOR.
- Remove fields with possible sensitive data or internal file system resources: COMMENTS.

8.3 Layer Files

Layer files are not new data requiring storage and maintenance but point to existing data. They have appropriate selection and symbolization for correct use and display of the data. They provide the guidance for data published on the web. Layer files are created by simple, documented processes, and can be deleted and recreated at any time.

Layer files will be created for internal use categorizing the Fish Distribution feature classes by Species (SPECIES_CD) and Presence (PRESENCE_CD). Additionally, streaming data services may be created from each feature class and used internally and externally for access to the data.

9 Editing Procedures

9.1 Theme Specific Guidance

There is much in the data standard that addresses editing and provides guidance especially in the Data Management Protocols (Section 3).

Due to the complexity in editing Fish Distribution to keep it into alignment with the Hydrography dataset, a separate document will be provided with editing instructions.

9.1.1 Calculation Data Rules

The following are a list of calculation rules that occur during editing. Calculation rules are used to automatically populate attributes in a field. These are in addition to the default values defined in Sections 4 and 7.

There are no calculation data rules for this dataset.

9.1.2 Constraint Data Rules

The following are a list of data constraint rules that are enforced during editing. Constraint rules specify allowable combinations of values between two or more fields in a record. They are used to ensure that specific conditions are met.

There are no constraint data rules for this dataset.

10 Abbreviations and Acronyms

Does not include abbreviations/acronyms used as codes for data attributes or domain values.

Table 1 Abbreviations/Acronyms Used

Abbreviations	Descriptions
ARC	GIS line feature
BLM	Bureau of Land Management, U.S. Department of the Interior
CADNSDI	Cadastral National Spatial Data Infrastructure
DEM	Digital Elevation Model
DLG	Digital Line Graphs
FOIA	Freedom of Information Act
GIS	Geographic Information System
GNIS	Geographic Names Information System
GPS	Global Positioning System
GTRN	Ground Transportation GIS dataset
IDP	Interdisciplinary
NAD	North American Datum
NARA	National Archives and Records Administration
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
ODF	Oregon Data Framework
ODFW	Oregon Department of Fish and Wildlife
OR/WA	Oregon/Washington BLM Administrative State
POLY	GIS polygon feature
PUB	Publication
RMP	Resource Management Plan
USFS	United States Forest Service, U.S. Department of Agriculture
USGS	United States Geological Survey, U.S. Department of the Interior
SDE	Spatial Database Engine
WDFW	Washington Department of Fish and Wildlife
WEB	Worldwide Web (internet)

A Domains (Valid Values)

These are the domains at the time the data standard was approved. Domains can be changed without a re-issue of the data standard. Current domains are found on the internal OR/WA SharePoint data management page. Some of the domains used in this data standard are also available at the following web site: http://www.blm.gov/or/datamanagement/index.php

For domains not listed at that site contact: contact the State Data Administrator.

A.1 dom_FISH_ANADROMOUS

Fish Anadromous Species Code. Fish species codes for anadromous fish. The code is an alpha short code, and the display value is the Scientific Name and Common Name.

Code	Description
ACME	Acipenser medirostris / Green Sturgeon
LATR	Lampetra tridentata / Pacific Lamprey
ONGO	Oncorhynchus gorbuscha / Pink Salmon
ONKE	Oncorhynchus keta / Chum Salmon
ONKI	Oncorhynchus kisutch / Coho Salmon
ONMYL	Oncorhynchus mykiss / Summer Steelhead
ONMYK	Oncorhynchus mykiss / Winter Steelhead
ONNE	Oncorhynchus nerka / Sockeye Salmon
ONTSM	Oncorhynchus tshawytscha / Spring Chinook Salmon
ONTSN	Oncorhynchus tshawytscha / Fall Chinook Salmon
ONTSO	Oncorhynchus tshawytscha / Summer Chinook Salmon
THPA	Thaleichthys pacificus / Eulachon

A.2 dom_FISH_EXTPRESENCE

Fish External Presence Code. Indicates the fish presence of the source data for data acquired from other agencies.

Code	Description
BLM Downstream Trace	BLM Downstream Trace
CCTIC Presence or Documented Downstream	CCTIC Presence or Documented Downstream
ODF Verfish, Unverified	ODF Verfish, Unverified
ODF Verfish, Unverified or BLM Downstream Trace	ODF Verfish, Unverified or BLM Downstream Trace
ODF Verfish, Verified	ODF Verfish, Verified
ODFW Concurrence of Professional Opinion	ODFW Concurrence of Professional Opinion
ODFW Documented Observation of Fish	ODFW Documented Observation of Fish
ODFW Documented Observation of Habitat	ODFW Documented Observation of Habitat

Code	Description
ODFW Downstream of Verified Anadromous Presence	ODFW Downstream of Verified Anadromous Presence
ODFW Habitat Evaluation	ODFW Habitat Evaluation
ODFW Individual Professional Opinion	ODFW Individual Professional Opinion
ODFW Undocumented Observation of Fish	ODFW Undocumented Observation of Fish
WDFW Artificial - Documented, Spawning	WDFW Artificial - Documented, Spawning
WDFW Documented, Presence	WDFW Documented, Presence
WDFW Documented, Rearing	WDFW Documented, Rearing
WDFW Documented, Spawning	WDFW Documented, Spawning
WDFW Potential, Presence	WDFW Potential, Presence
WDFW Presumed, Presence	WDFW Presumed, Presence
WDFW Presumed, Spawning	WDFW Presumed, Spawning
WDFW Presumed, Rearing	WDFW Presumed, Rearing
WDFW Transported - Documented, Presence	WDFW Transported - Documented, Presence
WDFW Transported - Documented, Spawning	WDFW Transported - Documented, Spawning
WDFW Transported - Potential, Presence	WDFW Transported - Potential, Presence
WDFW Transported - Presumed, Presence	WDFW Transported - Presumed, Presence
BLM Downstream Trace	BLM Downstream Trace
CCTIC Presence or Documented Downstream	CCTIC Presence or Documented Downstream
ODF Verfish, Unverified	ODF Verfish, Unverified
ODF Verfish, Unverified or BLM Downstream Trace	ODF Verfish, Unverified or BLM Downstream Trace
ODF Verfish, Verified	ODF Verfish, Verified
ODFW Concurrence of Professional Opinion	ODFW Concurrence of Professional Opinion
ODFW Documented Observation of Fish	ODFW Documented Observation of Fish
ODFW Documented Observation of Habitat	ODFW Documented Observation of Habitat
ODFW Downstream of Verified Anadromous Presence	ODFW Downstream of Verified Anadromous Presence
ODFW Habitat Evaluation	ODFW Habitat Evaluation
ODFW Individual Professional Opinion	ODFW Individual Professional Opinion
ODFW Undocumented Observation of Fish	ODFW Undocumented Observation of Fish
WDFW Artificial - Documented, Spawning	WDFW Artificial - Documented, Spawning
WDFW Documented, Presence	WDFW Documented, Presence
WDFW Documented, Rearing	WDFW Documented, Rearing
WDFW Documented, Spawning	WDFW Documented, Spawning
WDFW Potential, Presence	WDFW Potential, Presence
WDFW Presumed, Presence	WDFW Presumed, Presence

Code	Description
WDFW Presumed, Spawning	WDFW Presumed, Spawning
WDFW Presumed, Rearing	WDFW Presumed, Rearing
WDFW Transported - Documented, Presence	WDFW Transported - Documented, Presence
WDFW Transported - Documented, Spawning	WDFW Transported - Documented, Spawning
WDFW Transported - Potential, Presence	WDFW Transported - Potential, Presence
WDFW Transported - Presumed, Presence	WDFW Transported - Presumed, Presence

A.3 dom_FISH_METHOD

Fish Method Code. Indicates how the data was collected.

Code	Description
Field Surveyed	The systematic observation, identification and collection of quantitative information describing fish or fish habitat, following a standardized methodology (Electrofishing, Spawning Surveys, eDNA, Snorkel, etc.).
Professional Opinion/Modeled	Professional Opinion: An opinion formulated by an individual biologist from a natural resource agency or tribe. Generally, this is Presence Not Verified (PNV). Modeled: A schematic description of a system, theory, or phenomenon that accounts for its known or inferred properties and may be used for further study of its characteristics (ex. LiDAR, Digital Elevation Models, Species Occupancy Model, etc.). Generally, this is Presence Not Verified (PNV).
Other	Alternate methods used that are not captured in the other methods. To be described in Comments field (ex. HydConversion). Generally, this is Presence Not Verified (PNV).

A.4 dom_FISH_NONNATIVE

Fish Non-Native Species Code. Fish species codes for non-native species of fish. The code is an alpha short code, and the display value is the Scientific Name and Common Name.

Code	Description
ALSA	Alosa sapidissima / American Shad
ARIN	Ameiurus interruptus / Sacramento Perch
AMME	Ameiurus melas / Black Bullhead
AMNA	Ameiurus natalis / Yellow Bullhead
AMNE	Ameiurus nebulosus / Brown Bullhead
CYCA	Cyprinus carpio / Common Carp
GAAF	Gambusia affinis / Mosquitofish
ICPU	Ictalurus punctatus / Channel Catfish
LECY	Lepomis cyanellus / Green Sunfish
LEGI	Lepomis gibbosus / Pumpkinseed
LEMA	Lepomis macrochirus / Bluegill

Code	Description
LEMI	Lepomis microlophus / Redear Sunfish
MIDO	Micropterus dolomieui / Smallmouth Bass
MISA	Micropterus salmoides / Largemouth Bass
NOCR	Notemigonus crysoleucas / Golden Shiner
PEFL	Perca flavescens / Yellow Perch
PIPR	Pimephales promelas / Fathead Minnow
POAN	Pomoxis annularis / White Crappie
PONI	Pomoxis nigromaculatus / Black Crappie
SATR	Salmo trutta / Brown Trout
SAFO	Salvelinus fontinalis / Brook Trout
STVI	Stizostedion vitreum vitreum / Walleye

A.5 dom_FISH_PRESENCE

Fish Presence Code. The code to indicate if the species is present at the geographic extent of the feature.

Code	Description
PV	PV - Presence Verified
PNV	PNV - Presence Suspected, Not Verified
AV	AV - Absence Verified

A.6 dom_FISH_RESIDENT

Fish Resident Species Code. Fish species codes for resident species of fish. The code is an alpha short code, and the display value is the Scientific Name and Common Name.

Code	Description
ACTR	Acipenser transmontanus / White Sturgeon
ACAL	Acrocheilus alutaceus / Chiselmouth
CACA	Catostomus catostomus / Longnose Sucker
CACO	Catostomus columbianus / Bridgelip Sucker
CAMA	Catostomus macrocheilus / Largescale Sucker
CAOCLAA	Catostomus occidentalis lacusanserinus / Goose Lake Sucker
CAPL	Catostomus platyrhynchus / Mountain Sucker
CARI	Catostomus rimiculus / Klamath Smallscale Sucker
CARISSPA	Catostomus rimiculus ssp / Jenny Creek Sucker
CASN	Catostomus snyderi / Klamath Largescale Sucker
CATA	Catostomus tahoensis / Tahoe Sucker

Code	Description
CAWA	Catostomus warnerensis / Warner Sucker
CHBR	Chasmistes brevirostris / Shortnose Sucker
COAL	Cottus aleuticus / Coast Range Sculpin
COAS	Cottus asper / Prickly Sculpin
COBAA	Cottus bairdii / Malheur Mottled Sculpin
COBA	Cottus bairdii / Mottled Sculpin
COCO2	Cottus confusus / Shorthead Sculpin
COGU	Cottus gulosus / Riffle Sculpin
COPE	Cottus perplexus / Reticulate Sculpin
COPI	Cottus pitensis / Pit Sculpin
COPR	Cottus princeps / Klamath Lake Sculpin
CORH	Cottus rhotheus / Torrent Sculpin
COSPP	Cottus spp.
COTE	Cottus tenuis / Slender Sculpin
DELU	Deltistes luxatus / Lost River Sucker
GAAC	Gasterosteus aculeatus / Threespine Stickleback
GIAL	Gila alvordensis / Alvord Chub
GIBI	Gila bicolor / Tui Chub
GIBO	Gila boraxobius / Borax Lake Chub
GICO	Gila coerulea / Blue Chub
LALE	Lampetra lethophaga / Pit-Klamath Brook Lamprey
LAMI	Lampetra minima / Miller Lake Lamprey
LARI	Lampetra richardsoni / Western Brook Lamprey (Pacific Brook Lamprey)
LASI	Lampetra similis / Klamath Lamprey
LATRA	Lampetra tridentata / Goose Lake Lamprey
LATRB	Lampetra tridentata / Upper Klamath Basin Pacific Lamprey
LOLO	Lota lota / Burbot
MYCA	Mylocheilus caurinus / Peamouth
ONCLCL	Oncorhynchus clarkii clarkii / Coastal Cutthroat Trout
ONCLHE	Oncorhynchus clarkii henshawi / Lahontan Cutthroat Trout
ONCLLE	Oncorhynchus clarkii lewisi / Westslope Cutthroat Trout
ONMYH	Oncorhynchus mykiss / Inland Columbia Basin Redband Trout
ONMYI	Oncorhynchus mykiss / Oregon Basin Redband Trout
ONMYJ	Oncorhynchus mykiss / Rainbow Trout
ONNEC	Oncorhynchus nerka / Kokanee Salmon
ONSSPC	Oncorhynchus clarkii / Cutthroat Trout hybrid

Code	Description
ORCR	Oregonichthys crameri / Oregon Chub
ORKA	Oregonichthys kalawatseti / Umpqua Chub
PRCO	Prosopium coulterii / Pygmy Whitefish
PRWI	Prosopium williamsoni / Mountain Whitefish
PTOR	Ptychocheilus oregonensis / Northern Pikeminnow
PTUM	Ptychocheilus umpquae / Umpqua Pikeminnow
RHCA	Rhinichthys cataractae / Longnose Dace
RHCASSP	Rhinichthys cataractae ssp / Millacoma Dace
RHEV	Rhinichthys evermanni / Umpqua Dace
RHOSA	Rhinichthys osculus / Foskett Speckled Dace
RHOS	Rhinichthys osculus / Speckled Dace
RHOSKLB	Rhinichthys osculus klamathensis / Speckled Dace (Klamath Basin)
RIBA	Richardsonius balteatus / Redside Shiner
RIEG	Richardsonius egregius / Lahontan Redside Shiner
SACO	Salvelinus confluentus / Bull Trout