Stewardship Plan

for the

Oregon Fish Habitat Distribution Database

Bioscience Framework

State of Oregon

Version 0.1

March 2020

Under the auspices of the Oregon Geographic Information Council

Revision History

0.2 revised based on community input
0.3 revised based on community input during first comment period
0.4 revised based on community input during the second comment period

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Purpose

This Stewardship Plan is a complementary document to the Oregon Fish Habitat Distribution (FHD) Data Standard and replaces the ODFW Fish Habitat Distribution Update Protocol (Update Protocol). It describes how the data will be maintained over time and also outlines a process for accepting or rejecting proposed changes to the data. The Bioscience theme fits within the Oregon Framework spatial data infrastructure which is an extension of the National Spatial Data Infrastructure.

Stewardship Classification

This stewardship plan is for the life-cycle management of the Oregon Fish Habitat Distribution framework element of the Bioscience theme.

This is a Class B Stewardship Plan because this data element:

- has multiple data sources created by state and federal, as well as private entities
- has attributes and/or features that change frequently,
- does not have a high level of dependency by other Framework data elements, and
- is not a Base Map element as defined by the Framework Program.

Therefore, this element requires a moderate degree of formality and documentation for stewardship, though its use is frequent and changes periodically.

Framework Element Steward

Agency or organization: Oregon Department of Fish and Wildlife (ODFW)
ODFW serves as the horizontal steward of the Fish Habitat Distribution framework element.

Position within Agency with horizontal stewardship responsibilities: GIS Coordinator

Custodian(s): Local, state and federal natural resource agencies, universities, tribes, private corporations develop and manage data that all contribute toward the Oregon Fish Habitat Distribution Database.

Data Description

The Oregon Fish Habitat Distribution Data Standard (Data Standard) specifies a common representation of geospatial fish habitat distribution information for the state of Oregon. The database currently includes over 80 species-specific and genus-specific datasets. Over 100 species will eventually be included. These datasets identify and describe both current and historical fish habitat distribution or "areas of suitable habitat believed to be used currently or historically by native, or non-native fish populations based on sampling or best professional opinion"[1]. Current habitat must also be accessible. Additionally, modeling techniques that meet the criteria in the business rule for "Data Categories" within the Data Standard may be used to identify fish habitat, however these modeled

[1] *Cooney, C.X., et al. 1:24K Fish Habitat Distribution Development Project Completion Report. ODFW, Salem. 2003.*

data will typically be managed separately from non-modeled data. See Appendix A, workflow #5 for details that describe when modeled data may be integrated with non-modeled data.

FHD data originate from multiple sources; however, they are primarily developed by state and federal natural resources agencies. Fish and habitat observations occur as part of ongoing fish population monitoring or resource related field surveys.

Data Type: Vector Feature Type: Line, Polygon Update Cycle: Ongoing

Stewardship Approach

The Data Standard is used to aggregate data from multiple sources; however, it typically does not meet the specific needs of the data originators. The Data Standard addresses a set of broader needs by facilitating the compilation of these disparate data into statewide datasets that are used for a variety of resource management purposes at local, regional and statewide scales. Some regulatory processes (e.g., Oregon Dept. of Forestry's Salmon, Steelhead and Bull Trout water protection rules; Oregon Dept. of State Lands Essential Salmonid Habitat wetland fill and removal rules; Oregon Dept. of Environmental Quality's Fish Use Designations and associated temperature rules) rely on the best available FHD data which are derived from the FHD database.

Since source data vary widely, custom data crosswalks are often developed to guide the data conversion into the Data Standard format. A detailed set of standard operating procedures is found in an internal ODFW document titled, Oregon Fish Habitat Distribution Data Management Plan.

Stewardship for the FHD database is accomplished collaboratively by the database steward in consultation with the ad-hoc Fish Habitat Distribution Data Development Workgroup, comprised of state and federal agencies that conduct field surveys of fish and fish habitat. The data steward convenes the workgroup on an as-needed basis to plan for data exchange and updates across the agencies involved. Natural resource agencies such as the U.S. Forest Service (USFS), Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS) maintain their own versions of fish habitat distribution datasets. Updates are made based on surveys their respective agencies conduct or through other means such as opinion or modeling. Additionally, many datasets are still developed from scratch, which involves discovering source data, accessing and then processing it into the standardized format. Datasets are also published at irregular intervals, but generally follow closely after substantive updates to the database. Sensitive species data and incomplete datasets are not published. Data are not required to be submitted to ODFW for compilation into the FHD database. They are provided on an opportunistic basis due to the benefits that are realized by compiling these data into more comprehensive statewide datasets.

Changes to fish habitat distribution data may also originate from watershed councils, landowners or the general public. Appendix A outlines the process for making changes to the data contingent on different data provider groups and data categories.

Update Frequency

Due to various administrative and program-level constraints, these data are updated on an irregular basis. Without these constraints, both inter- and intra-agency updates would ideally occur on an annual basis.

Stewardship Workflow

Changes to fish habitat distribution data can originate from fish or fish habitat survey efforts, the rendering of professional opinions or modeling. Modeled data will typically be managed separately from non-modeled data, however they may be integrated with non-modeled data if minimum graphic and attribute element requirements are met. Proposed changes may also originate from private corporations (e.g., watershed councils, forestry companies) or the general public. This section outlines the process for making changes to the FHD data. Please refer to Appendix A for additional detail.

Changes to the FHD database fall into three separate basis types:

1) Fish or fish habitat observations, including confirmation of upstream extent, are recorded and shared with the database steward. The steward may also seek out these data as part of an active data development effort. Fish passage barriers are included within habitat observations.
2) Professional opinion(s) are rendered to identify fish habitat based on the knowledge of the physical and biological characteristics of the water in question, which may take into consideration neighboring waters.
3) Fish habitats are identified through modeling. Version 3.0 of the OFHDDS allowed for the use of models to identify historical fish habitats. Version 4.0 of the OFHDDS allows for the use of species distribution models to identify either current or historical fish habitats.

The details of each workflow are spelled out in Appendix A. Workflows are broken out based on the combination of OFHDDS Data Category and Data Provider Group. Modeled data have a separate workflow from non-modeled data. Data quality assurance procedures are run as part of any data update process.

Data Acquisition

Distribution data are typically acquired by the FHD Data Steward/GIS coordinator, primarily from state and federal natural resources agencies that compile fish and habitat observations as part of ongoing fish population monitoring or resource related field surveys (see Data Description for more information). Occasionally information regarding changes to existing fish habitat distribution data are provided to the FHD Data Steward in response to “new” information that is acquired due to fish or fish habitat observations, including confirmation of upstream extent. Available metadata is requested and filed with the data. As new sources of data are added to distribution datasets, process step metadata is developed. Metadata are included when datasets are submitted to the appropriate Oregon navigatOR contact(s) in the Oregon Geospatial Enterprise Office for inclusion in the Oregon GIS

Framework.[2] Fish habitat distribution data also have an associated reference database which is managed by StreamNet.

Data sources are documented in the reference database. Each FHD record is related to its source through a reference ID, which is generated by the FHD Data Steward and is found in the OFHDDS "fhdRefID" field.

New data relating to fish habitat distribution comes in many formats:

(1) Digital line data; layers, or feature classes, at varying scales,
(2) GIS event tables,
(3) Excel spread sheets with survey coordinates,
(4) Hard copy tables, notes, maps, or reports,
(5) Phone interviews with fish biologists.

Data Maintenance

The vision for FHD data maintenance includes the incorporation of new information as it becomes available (for site specific applications) and annually for long-term monitoring information. OFHDDS Category 2 datasets in need of further development would be actively augmented through a mix of data sources including observation, opinion-based and modeling. Sufficient staff resources would be dedicated to addressing these needs on a permanent, full-time basis.

Maintenance of FHD data includes error corrections, incorporation of new data, and synchronization to the USGS National Hydrography Dataset (NHD) as it is improved over time. Inaccuracies are generally the result of past data migration errors or from habitat identification upstream of impassable barriers. Errors are typically identified in the context of the Oregon Department of State Lands wetland protection rules or in the context of the Oregon Department of Forestry's water protection rules. Errors can be brought to the attention of the horizontal steward by anyone at any time.

Integrating new data can result in extending the areas of previously identified habitat, retracting mapped habitat due to the identification of previously unknown barriers (inaccessible) or lack of livable space (not suitable), changing habitat use designations, improving the basis upon which the data are built (e.g., shifting from opinion-based to observation-based data) or in updating the date of observations.

At periodic intervals (target is annual), FHD data are synchronized with the NHD using the Hydrography Event Management tools. The synchronization process ensures that the geometry of the FHD data reflect the most current and accurate locations of the NHD as they are improved over time. As LiDAR data become more readily available, they can be utilized to not only improve the locational accuracy of the NHD streams, but also to improve on the overall representation of the stream features that occur on the landscape. Maintaining the alignment between the FHD data and the NHD is essential for maximizing the utility of the FHD data as well as facilitating efficient exchanges of FHD data between natural resource agency partners.

[2] For more information visit www.gis.oregon.gov.

The level of maintenance of the FHD data can vary depending upon whether ODFW has an active data development project or not. Without an active FHD data development project, maintenance still occurs but it is generally less frequent.

Communication

The primary mechanism for communication between the FHD Data Steward and data custodians will occur through the ad-hoc Fish Habitat Distribution Data Development workgroup. Other data providers (e.g., research or monitoring project leaders within ODFW) will be contacted on a periodic basis to facilitate data exchanges.

Horizontal Integration

The source data that contribute toward the development of the FHD database vary widely in terms of their content, format, extent, update cycles, and the purpose for their development. Consequently, the methods and timing for horizontal integration of these data, while standardized, often must be adapted to each data source. Custom data crosswalks are often developed to guide the data conversion into the OFHDDS format. Business rules within the Data Standard guide an order of precedence between different basis categories. The internal FHD Data Management Plan has detailed steps outlined for both intra- and interagency data exchange.

Vertical Integration

FHD data are managed as "event feature classes" on the NHD which ensures complete vertical integration between these data and the state standard hydrography data. In some cases, new NHD features must be created in order to support the FHD habitat mapping. For most species this occurs on a relatively infrequent basis. However, the lack of underlying NHD features is more prevalent for species such as Coastal Cutthroat Trout (CCT). There is currently a discrepancy between known locations of CCT and available features within the NHD. Staff and program resources are inadequate to resolve the discrepancy as of September 2019. There are also select cases where Oregon Department of Forestry (ODF) Fish Presence (or absence) data are in conflict with anadromous salmonid FHD datasets. Each of these needs to be resolved on a case-by-case basis.

Efforts are also made to vertically integrate FHD data with the Oregon Fish Passage Barriers Database. This often takes the form of modifying the upper extent of the data such that it ends at an impassable barrier, including both natural and anthropogenic. In some cases, observations of anadromous species upstream of barriers may inform that there is at least a minimal amount of passage at the barrier which may result in an update to the barrier data. Version 4 of the FHD Data Standard now includes attributes to track barrier IDs and specific survey determinations at the end extent of anadromous fish habitat. There are innumerable cases where the horizontal accuracy of the NHD does not align with current road / stream crossings. Current staff and program resources are inadequate to address this issue.

Future enhancements: revisions of the Oregon Fish Passage Barriers Database are under consideration as a means to improve the vertical integration of these two datasets.

Data Distribution

The FHD Framework element is published as a set of species-specific feature classes and shapefiles made available through the ODFW Data Clearinghouse[3] and the Oregon Spatial Data Library[4]. The data are also available via a web map application linked from the ODFW Natural Resources Information Management Program Data Resources web page[5]. Web services are available from ODFW's ArcGIS Server.

Sensitive species datasets (level 2 information asset classification) and incomplete datasets will remain unpublished, however these may be available to outside entities through specific data sharing agreements.

Future enhancements: Collections of related species datasets (e.g., native migratory fish) will be explored to facilitate easier access to the data for certain applications.

Quality Checking

ODFW has a detailed series of data quality assurance routines that are spelled out in the internal FHD Data Management Plan. Checks are outlined to ensure the accuracy of both graphic and attribute elements as changes are made to the database. Periodic checks are run to ensure compatibility between FHD and Barrier data as well as FHD data and other data sources (e.g., ODF Fish Presence data).

Improvement

The active engagement and exchange of data amongst the FHD Data Development workgroup is intended to provide a mechanism for improving the data over time. The status of FHD data, at the species-specific level, ranges from 0% to approximately 95% developed. Additionally, more FHD data originators are now managing their data directly on the NHD which facilitates ready comparison between datasets. Lastly, as these data are applied, especially in the context of administrative rule, errors are identified and corrected. The completion of a stewardship plan, including a set of instructions for proposing modifications to the data, should help to improve the involvement of non-agency stakeholders in the process of improving the data.

Evaluation

As long as multiple state and federal habitat and water protection rules continue to rely on FHD data, the FHD Framework element will need to be maintained. The steward will check with the FHD Data Development workgroup, on approximately an annual basis, as well as the interagency Bioscience Framework Implementation Team (FIT) to evaluate whether any changes to the Data Standard are warranted. The Bioscience FIT is part of Oregon's effort to extend the federal National Spatial Data

[3] ODFW data clearinghouse: https://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?ReturnUrl=%2fDataClearinghouse

[4] OSDL URL: https://spatialdata.oregonexplorer.info/geoportal/

[5] ODFW NRIMP URL: https://nrimp.dfw.state.or.us/FHD_FPB_Viewer/index.html

Infrastructure. Input will also be requested from the broad range of stakeholders that are applying these data to meet their business needs.

Archiving

As the FHD database evolves over time due to continuing development, versions will be archived on roughly an annual basis by the steward agency. Archiving of the publication datasets is also expected to occur by the Geospatial Enterprise Office through the Oregon Spatial Data Library.

Appendix A: Process for Proposing Changes to the FHD Data

Changes to fish habitat distribution data can originate from fish or habitat survey efforts, the rendering of professional opinions or modeling. Proposed changes may also originate from private corporations (e.g., watershed councils, forestry companies) or the general public. This section outlines the process for making changes to the FHD data, based on the provider of the information. When changes are proposed in bulk (e.g., >10 records), the required information can be provided to the FHD Data Steward without entering each separate record into the Distribution Data Change Request Form.

The following elements are common to all requests:

- Gather sufficient information to propose a change.
- Submit information to the FHD Data Steward via the Distribution Data Change Request Form.
- The FHD Data Steward evaluates proposed changes and works with requesters as necessary to ensure that sufficient information is provided and the appropriate process is followed.
- The FHD Data Steward will run data quality checking routines and coordinate with the appropriate ODFW biologist(s) as necessary to ensure the integrity of both graphic and attribute elements of the proposed changes.
- The three possible outcomes from the submission are:
    - Accepted as submitted, or
    - Placed on hold pending additional information, or
    - Denied due to insufficient information.

Proposed modifications to Oregon's FHD data are evaluated by the FHD Data Steward and ODFW district fish biologists (as needed) based on the completeness of the existing dataset, the strength of supporting evidence and the agency/entity providing the data. To update these data in a consistent manner, ODFW follows the rules outlined in the Data Standard, including the business rules in Appendix D that describe the criteria for making changes. The FHD Stewardship Plan is an essential complementary document to the Data Standard and includes the steps required to implement changes to the data. It replaces the ODFW Fish Habitat Distribution Update Protocol (Update Protocol).

To propose a change to the fish habitat distribution data, the following information (A-F) is required for submission to ODFW in accordance with the update procedures identified in section G below:

A. ***Location information****: stream name or NHD Reachcode; fish observation or barrier location details (e.g., coordinates including coordinate system details, GIS data in shapefile or geodatabase format, digital or hardcopy 1:24,000 or larger scale map)*
    - ***Species name****: including run (if known for Chinook or steelhead). Also, determine the species-specific OFHDDS Data Category (1 or 2). See Appendix D of the Data Standard, Data Categories section.*
B. ***Habitat use information*** *(if known): spawning, rearing, migration, historical, resident – multiple uses*
C. ***Observation information*** *(if relevant), supporting addition, modification or deletion of fish habitat distribution, including documentation of:*
    - *Fish presence or absence*
    - *Suitable and accessible habitat, or proof to the contrary*

- *A complete natural barrier to anadromous fish migration*

D. ***Source information:***
   - *Data provider name and contact information*
   - *Data provider group (see Appendix D of the Data Standard, Data Provider Groups section):*
     - *state or federal natural resource agency, or tribal biologist (Group 1 data provider), or*
     - *other biologists and non-biologists (Group 2 Data Provider)*

E. ***Observation / Identification Basis*** *(See Appendix A of the Data Standard for definition of terms):*
   - *Protocol based survey with a fish observation;*
   - *Protocol based survey that documents the upper extent of fish use*
   - *Non-protocol based survey with a fish observation,*
   - *A protocol based habitat observation (including a lack of fish presence / lack of suitable and accessible habitat determination), or*
   - *Professional opinion (concurrence, individual)*

F. ***Procedures for requesting changes to FHD data***

The Category of the data in question, the Basis for the proposed change, the Data Provider Group and the type of change proposed collectively dictate the rules and steps to follow. Data categories and data provider groups are defined below as well as in Appendix D of the Data Standard document. The flow chart below provides a simplified depiction of the update process.

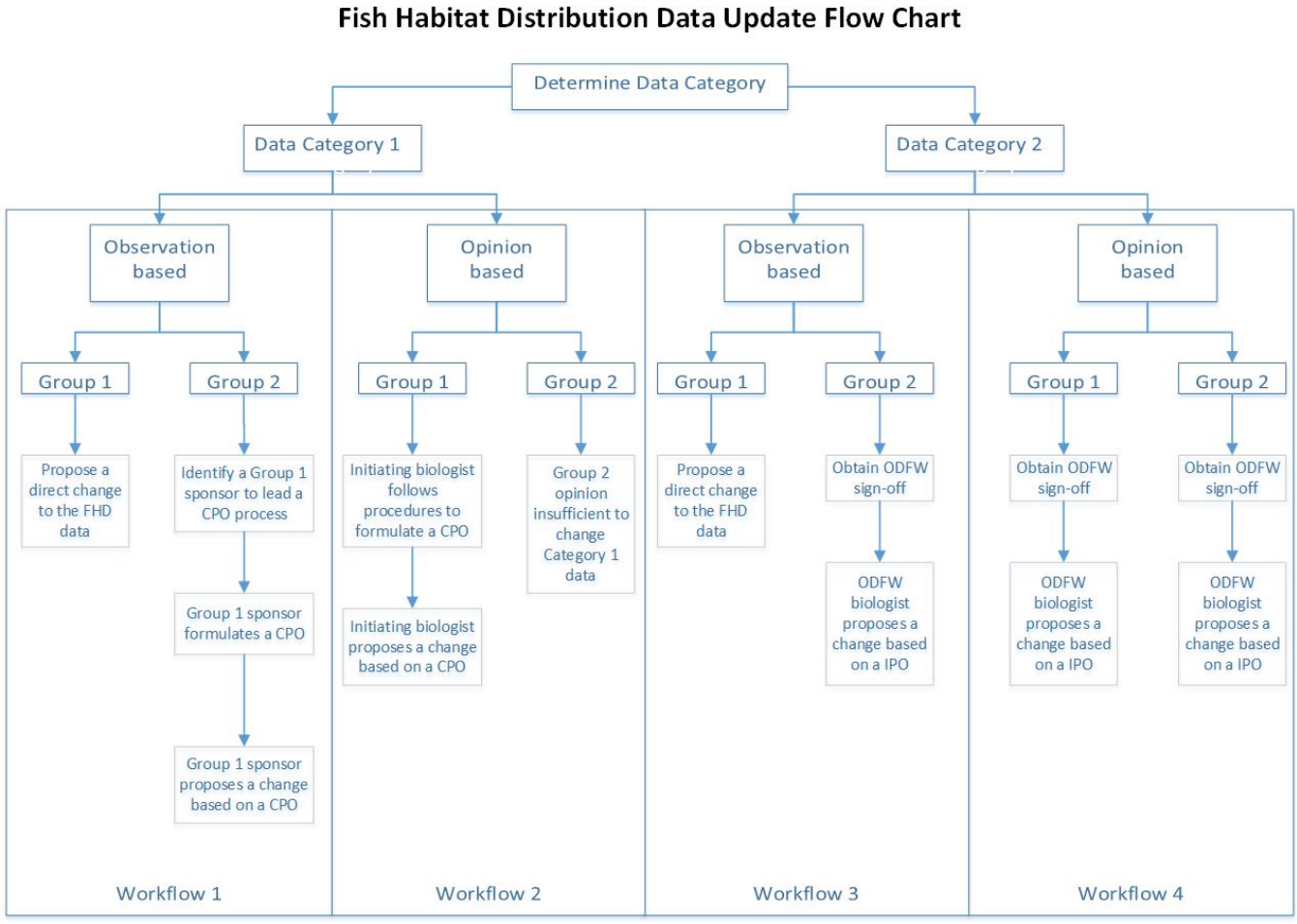

Figure 1. Overview of the data update work flow. Data Provider Groups are represented as "Group 1" and "Group 2". Full descriptions and definitions follow the diagram.

Definitions:

OFHDDS Data Category 1 - Species habitat distributions that are mapped "comprehensively" (coho salmon, Chinook salmon, chum salmon, sockeye salmon, steelhead, bull trout, redband trout, Lahontan and Westslope cutthroat trout, Oregon chub, White and Green sturgeon)

OFHDDS Data Category 2 - Species that are not mapped "comprehensively" which include all species not listed as Category 1 species.

Group 1 Data Provider - State and federal natural resource agency, tribal biologists (ODFW, ODF, USFS, BLM, USFWS, tribes) or university researchers with an advanced degree in fisheries biology. The data provider must be employed by one of these entities at the time either the observation was made or the opinion was rendered.

Group 2 Data Provider - Other biologists and non-biologists (e.g., university researchers without an advanced fisheries biology degree, SWCD's, utilities, private corporation biologists, non-biologists such as ODFW experimental biology aides or USFS / BLM equivalent positions, watershed councils, and anyone else who does not fall into Group 1).

Observation Based – Basis for the proposed change is either a fish or habitat observation, or a lack of fish presence, or a lack of suitable and accessible habitat

Opinion Based – Basis for the proposed change is based on either a concurrence of professional opinion or an individual professional opinion

There are four *primary* change request workflows. Each workflow has two separate sub-workflows for eight potential pathways from start to finish. Under each workflow and sub-workflow below, see the detailed procedures that are unique to each. There is also a fifth workflow to describe the procedures for submitting and incorporating modeled data into the database.

Workflow #1 – OFHDDS Category 1 Data, Basis = Observation

Sub-workflow A – Group 1 Data Provider

Qualifying fish or habitat observations, including a lack of fish presence or a lack of suitable and accessible habitat, made by Group 1 data providers are sufficient to implement changes to OFHDDS Category 1 data.

Sub-workflow B – Group 2 Data Provider

Fish or habitat observations made by Group 2 data providers require consultation with a Group 1 data provider. The Group 1 data provider must take "ownership" of the proposed change and lead a CPO process to validate the accuracy and sufficiency of the information. If parties agree, then the Group 1 data provider will proceed with requesting the change.

Workflow #2 - OFHDDS Category 1 Data, Basis = Opinion

Sub-workflow A - Group 1 Data Provider

The Group 1 data provider leads a CPO process which must involve an ODFW biologist. A non-ODFW data provider may request that an ODFW biologist lead the process.

Sub-workflow B - Group 2 Data Provider

Opinions rendered by Group 2 data providers for changing OFHDDS Category 1 data, while allowed, are generally discouraged. [Note: when pursuing this change request workflow, it is preferable to obtain either fish or habitat observation information first before approaching a Group 1 data provider.] If the Group 2 data provider chooses to proceed without first obtaining observation information, the process of proposing a change with a basis of opinion requires consultation with a Group 1 data provider. The Group 1 data provider must take "ownership" of the proposed change and lead a CPO process to validate the accuracy and sufficiency of the information. If parties agree, then the Group 1 data provider will proceed with requesting the change.

Workflow #3 - OFHDDS Category 2 Data, Basis = Observation

Sub-workflow A - Group 1 Data Provider

Fish or habitat observations made by Group 1 data providers are sufficient to implement changes to OFHDDS Category 2 data.

Sub-workflow B - Group 2 Data Provider

Contact the ODFW district fish biologist directly to obtain the necessary review and approval or upon request, the FHD Data Steward can facilitate this process.

Workflow #4 - OFHDDS Category 2 Data, Basis = Opinion

Sub-workflow A - Group 1 Data Provider

Proposing a change with a basis of opinion requires consultation with the ODFW district fish biologist. Either contact the ODFW district fish biologist directly to validate the proposed change or upon request, the FHD Data Steward can facilitate this process.

Sub-workflow B - Group 2 Data Provider

Contact the ODFW district fish biologist directly to obtain the necessary review and approval or upon request, the FHD Data Steward can facilitate this process.

Workflow #5 – OFHDDS Category 3 Data (Modeled)

Sub-workflow A – Standard graphic elements (NHD Streams)

In order to qualify for submission and acceptance into the OFHDDS database, modeled data must first comply with the OFHDDS Category 3 data business rules as specified in the Data Standard document. Data originators submitting modeled data for incorporation into the OFHDDS database must work directly with the FHD Data Steward to assess the unique circumstances of the data in question and to determine how best to transfer the data to ODFW. Once obtained, the FHD Data Steward will evaluate both the graphic and attribute elements of the data as well as the metadata, before proceeding with incorporation of the data into the database. These datasets will include "modeled" as part of their name and will be managed separately from non-modeled data within the database.

When modeled data comply with the graphic element requirements of the Data Standard, they will be considered for integration with non-modeled data. If integrating these data with non-modeled datasets will result in significant added value to the existing data, then their integration will be considered on both an opportunistic and selective basis, contingent on available resources. Modeled data will be considered equivalent to data with a basis of "Concurrence of Professional Opinion". They will also continue to be managed as complete datasets separately from non-modeled data.

Sub-workflow B – Non-standard graphic elements (non-NHD streams)

Modeled data must first comply with the OFHDDS Category 3 data business rules as specified in the Data Standard document. Data originators submitting modeled data for incorporation into the OFHDDS database must work directly with the FHD Data Steward to assess the unique circumstances of the data in question and to determine how best to transfer the data to ODFW. Once obtained, the FHD Data Steward will evaluate both the graphic and attribute elements of the data as well as the metadata,

before proceeding with incorporation of the data into the database. These datasets will include "modeled" as part of their name and will be managed separately from non-modeled data within the database.

Considerations for Proposing FHD Data Changes by Type

Additions (OFHDDS Category 1 Data)

The following types of observations provide the clearest evidence for supporting changes:

For anadromous species:

- Adults in the act of spawning or guarding redds.
- Presence of juveniles of the same species.
- Presence of redds, where it is clear which species produced the redd (i.e., adults observed in the area, or no other species would be present at the time).

For resident species:

- Any observed life-stage.

Acceptable Observation Records

Observations must be recorded in a manner that can be referenced and cited. Examples include recording data on a project data collection form, within a project GIS file, database or spreadsheet used to capture routine data collections, or in a published or recognized agency / entity project report. Undocumented observations may also be reported using emails, memos, notes, etc., which will be referenced by the FHD Data Steward.

Observation/Survey types that typically do and do not provide acceptable information

Acceptable*:	**Not Acceptable:**
Spawning count surveys	Existing distribution maps
Juvenile snorkel surveys	
Redd count surveys	Creel surveys
Stream habitat surveys	Voluntary angler reporting data
Fish presence/absence surveys	Water quality surveys
Tagging efforts	
Smolt trap/weir	
REMAP/EMAP surveys	
Estuary surveys	
Hatchery release data**	

* Contingent upon the quality and completeness of the information provided.

** Provided that fish origin and production information is included with the record.

Habitat or Opinion-based Records

Protocol based habitat observations are acceptable or a valid CPO process may be followed to support the identification of habitat outside the extent of currently mapped habitat.

Modifications

Updating attribute values for FHD records is considered a modification. For example, changing the habitat use designation of a stream reach from Migration to Rearing would constitute a data modification.

In order to modify existing data, the information provided must be on par with that of an addition and the evidence must directly support the requested change (e.g., observations of juveniles indicating some residence in the reach).

Deletions

OFHDDS Category 1 Data Criteria:

Existing distribution can be removed or retracted based on a number of factors:

- A protocol-based habitat survey that indicates accessible and unsuitable habitat AND a CPO that suitable habitat has not existed in that location for 5 generations (see Appendix D). A protocol for designating habitat as "unsuitable" must be agreed upon by the agencies conducting these surveys in order for the surveys to result in deletions to the distribution data. The rationale for stating that habitat has not been suitable in that location for 5 generations must be clearly explained on the change request form.
- Repeated observations/surveys indicating no-use over 5 generations (see Appendix D) for a given species within suitable and accessible habitat would cause the distribution to be changed to “historical.”
- In situations where fish are blocked by a newly created impassable barrier, the upstream distribution would immediately be changed to “historical.” Information describing the location and nature of the barrier is required. Conditions affecting suitable habitat accessibility that are known to be transitory (e.g., debris jam) must persist for 5 generations (see Appendix D) before the habitat will be mapped as “historical.”
- In situations where fish are blocked by a previously unknown natural, non-transitory barrier, the distribution would be retracted to the barrier. If the barrier is non-natural or transitory, the distribution above the barrier would be changed to "historical.” If the barrier is considered to be transitory (e.g., debris jam), then it must block access for 5 generations (see Appendix D) before the habitat will be mapped as “historical.” Information describing the location and nature of the barrier is required.

Note: Photos that show barrier height / scale are valuable for assessing fish passage.

OFHDDS Category 2 Data Criteria:

The biologists who are responsible for a particular waterbody must agree that the distribution should be removed based on a concurrence of their professional opinion (CPO). However, if the existing distribution is supported by observation information, the deletion criteria for OFHDDS Category 1 data will apply.

Completing the Data Change Request (DCR) Form

Step 1. Biologist(s) accesses and completes the online DCR form with required information.

Step 2. A notification is automatically delivered by the application to the FHD Data Steward.

Step 3. The FHD Data Steward notifies the submitting biologist that the request has been received and that a review is pending. The FHD Data Steward evaluates the submitted information to determine whether it meets the criteria as spelled out in FHD Stewardship Plan.

Step 4. If the criteria are met then the FHD Data Steward implements the requested change(s) (depending upon workload and available resources). The changes will be tracked within the change request database.

Step 4a. If the criteria are not met, the FHD Data Steward will identify the deficiencies of the request and will notify the submitting biologist(s). The biologist(s) will have the choice to either submit a new/revised DCR form with the required information, or accept that a change will not be made at this time.

Step 5. FHD Data Steward then creates a digital map displaying the updated information and provides this back to all contributing biologists for a final review.

Step 6. Biologists either confirm that the requested change was implemented properly, or provide additional input to refine the change.

Step 7. If additional input is provided by the biologists, the FHD Data Steward implements the refinement and repeats steps 4-6.

Step 8. Finally, the FHD Data Steward updates the distribution information that is available to the public.

Appendix B: Recommended Steps to Formulate a Concurrence of Professional Opinion (CPO)

The following steps outline a process for formulating a CPO amongst the biologists whose agencies have jurisdiction (BLM, USFS, USFWS, ODF, and/or tribal) of the state. Agency jurisdictions are evaluated based on ODFW fish districts as well as land ownerships within a 5th field watershed. For example, if a proposed change is made (e.g., upper Clackamas basin on USFS land), then fish biologists from the agencies with jurisdiction (ODFW and USFS) would need to reach a concurrence of opinion. The need to request a change based on a CPO may be based on the discovery of an error or omission in the existing distribution data or it might originate from information provided by a non-professional. The biologist who initiates a change request using this approach will be responsible for coordinating the formulation of a CPO. This biologist will henceforth be called the Initiating Biologist (IB) and those who have been solicited for their opinion will be called the Representative Biologists (RBs). At least one ODFW biologist must participate in the CPO process. ODFW biologist contact information can be found in Appendix C.

Step 1. A professional biologist identifies a need to change Category I distribution data, but no documented observations (that prove presence) or surveys proving fish absence exist.

Step 2. If necessary, the IB consults the FHD Data Steward to determine the appropriate biologist(s) to contact and requests their professional opinion regarding the proposed change. The IB may use whatever form of communication (phone, fax, email, hardcopy map, electronic map, etc.) that works best to convey the proposed change. A standardized cover letter is available upon request from the FHD Data Steward.

Depending upon land ownership or other details where the change is proposed, it may only be necessary to contact a subset of the biologists that are listed for the 5th field watershed (e.g., if a federal agency is listed as having jurisdiction within the watershed, but the particular stream in question is outside of their specific jurisdiction). The IB may use his/her discretion to determine which RB's need to be contacted, but must justify any exclusions on the change request form. The FHD Data Steward will determine whether the established criteria are met.

Step 3. The RB's are given a reasonable time frame to respond to the request (4 weeks recommended). If they do not respond within that time frame, the process will move forward. A simple communication stating their dissent will prevent the change from being implemented. In this situation, the IB can either work with the RB(s) as necessary to resolve to disagreement or can have the FHD Data Steward facilitate a dispute resolution process. The proposed change can also simply be dropped.

Step 4. The IB assembles the various responses in order to satisfy the requirements of proposing a change based on a CPO, as well as a list of any representative biologists who were not contacted and why they were omitted. The names, agencies, contact information and opinions will be required for all the biologists/agencies involved in formulating the CPO. If no state or federal ownership or tribal representation occurs within the 5th field watershed then the opinion of the ODFW biologist will be adequate to satisfy the CPO requirement.

Step 5. The IB then completes the DCR form and emails/mails it to the FHD Data Steward.

Step 6. The FHD Data Steward implements steps 3 through 8 of "Completing the Data Change Request Form" on page 16 of this document to complete the process. Digital maps displaying the "new" data will be provided to all of the contributing biologists for a final review.

Appendix C: ODFW District Fish Biologist Contact Map

Link to online map found here:

https://nrimp.dfw.state.or.us/web%20stores/nrimp/pub/gis/pics/fish_phone_map_public.pdf

Appendix D: Species / Generation Length for Current Distribution

Examples provided below.

Species	# Consecutive Generations	Generation Length (years)	Total Years
Coho	5	3	15
Chinook	5	6	30
Steelhead	5	7	35
Chum	5	4	20
Westslope Cutthroat	5	6 (typical)	30
Lahontan Cutthroat	5	6 (typical)	30
Coastal Cutthroat	5	6 (typical)	30
Rainbow / Redband	5	6 (typical)	30
Bull Trout	5	7 (typical)	35
Lamprey	5	10	50