

**Oregon Fish Passage Barrier Data Standard
Bioscience Framework Implementation Team Workgroup
Meeting Summary
January 23, 2007**

Attendance List

Mike Banach	PSMFC/Streamnet		Lori Hennings	METRO
Jon Bowers	ODFW		Jimmy Kagan	OSU INR
Mike Beaty	BOR		Steve Lanigan	AREMP and PNAMP
Bob Harmon	OWRD		Gail McEwen	OCP
Cedric Cooney	ODFW		Emmor Nile	ODF
Stephen Cruise	Washington Co.		Dave Price (by phone)	WDFW
Tom Erkert	USFS		Bobbi Riggers	OWEB
Stan Frazier (by phone)	BLM		Tom Stahl	ODFW
Jon French (by phone)	USFWS		Chris Stebbins	Benton Co. SWCD
David Graves	CRITFC			

Introductions

Jon Bowers reviewed the timeline for developing the fish passage data standard.

Gail McEwen mentioned that the Oregon Consensus Program has established a website for information relating to the workgroup (e.g., agendas, meeting summaries, contact information for participants). The website is: <http://www.orconsensus.pdx.edu/FishPassageWorkgroup.php>. The timeline will be added to the OCP website.

The group reviewed the summary of the 12/12/06 meeting. Mike Banach wanted to make sure the meeting record reflected Dave Price's participation in the meeting by phone.

Recap of Oregon Geodata Compatibility Guidelines/Standards Development Process

Jon Bowers presented a PowerPoint summary of the Oregon Geodata Compatibility Guidelines. These guidelines provide a standardized approach for developing federal framework themes and Oregon framework themes. (See <http://www.orconsensus.pdx.edu/FishPassageWorkgroup.php> for a copy of the presentation).

Jon stated that the group's work over the next few months will focus on the technical and operational content of the standard. The following points were raised during the discussion of the technical and operational content:

Integration of themes. Ideally, the fish passage standard should be integrated with the road centerline and hydrography standards. Both of these standards are evolving.

Reference systems. The standard will most likely mirror other existing standards and will support multiple coordinate reference systems. Emmor Nile raised the issue of using older datum's and to be watchful of the problems this can create.

Accuracy. Jimmy Kagan commented that the group would need to define acceptable levels of accuracy for data. Lori Hennings commented on the need for coordinates for fish passage barriers. Others mentioned that certain barrier types may need linear references, depending on the scale of intended application.

Edgematching. Edgematching for fish passage barriers needs to be addressed, although it may not be as important as edgematching for roads and streams. Tom Erkert commented on the need for someone to steward edge-matching, and proposed central edge-matching.

Feature identification code. Some key points raised during the discussion were:

- Robust feature identification codes are needed
- USFWS might have good examples of how to deal with feature identification codes, since their database includes data from a variety of sources
- Feature identification codes need to address barrier "uniqueness". Examples include one culvert with multiple pipes, or several barriers that occur close to each other.
- The group will need to define a set of simple, but useful attributes for different types of fish passage barriers.

Standard Scope

The group started their discussion of the standard scope from the following point:

The standard would include any natural or artificial structure that fully crosses "waters of the state" and has the potential to block upstream or downstream fish passage, either now, or in the future (e.g., road crossings, dams, tidegates, falls, cascades)

Key points raised during the discussion of the standard scope were:

- Use of the term "fully crosses". Several group members expressed concern with limiting the standard to structures that "fully cross" waters of the state. Some pointed out that structures that do not "fully cross" waters of the state can block or impede fish passage (for example, a natural torrent that creates velocity barriers). The group agreed that structures that act as velocity barriers should be included, even if they don't "fully cross" the stream.

Dave Price mentioned that Washington's definition includes "any artificial structure that blocks or impedes free passage of fish". The group agreed with the intent of Washington's definition and to remove "fully crosses", although there was concern that only including structures that "block or impede fish passage" would not get at structures which don't but could block passage (e.g., have a ladder or are a Stream Simulation crossing).

- Emmor Nile suggested that the scope be amended to clarify that the standard will address the "representation" of any natural "feature" or artificial structure. The group agreed.

- The group identified the following issues that need to be addressed when they are defining attributes for different types of fish passage barriers:
 - Is the barrier year-round, or only at certain times of year?
 - Does the barrier impede adults, juveniles or both?
- Steve Lanigan asked if dewatered sections of streams would be included in the scope of the standard. Tom Stahl replied that the scope should be for structures (as opposed to water quality or quantity issues), and thus only if the dewatering is associated with a diversion structure would this be indirectly included.
- “Potential” fish passage barriers. The group agreed that the standard should include structures that historically, currently or potentially block fish passage. Issues that the group will need to address are:
 - How to track barriers whose location changes over time?
 - How to deal with historical barriers (features or structures that have been removed)? Options mentioned by group members were:
 - Put removed barriers in a separate database
 - Create a separate database layer for removed barriers
 - Add an attribute to the barrier record to indicate the date of barrier removal
 - How to keep track of various database “versions” as changes occur over time
- The group also agreed to amend the scope of the standard to specifically reference bridges and culverts.

As a result of this discussion, the scope of the standard was modified as follows:

The standard will address the representation of any natural feature or artificial structure in “waters of the state” that historically, currently or potentially blocks upstream or downstream fish passage (e.g., bridges, culverts, road crossings, dams, tidegates, falls, cascades).

Definitions

Working from handouts distributed by Jon Bowers and Tom Stahl, the group discussed definitions of terms that used in the scope of the fish passage standard.

Fish. The group agreed to use the following definition provided by Dave Price at the Washington Department of Fish and Wildlife:

"Fish" means species of the vertebrate taxonomic groups of Cephalospidomorphi and Osteichthyes.

Waters of the state. The group agreed to use the definition of “waters of the state” in ODFW’s Fish Passage Administrative Rules [OAR 635-412-0005(46)], modified as shown below to delete reference to “that portion of the Pacific Ocean that is within the boundaries of Oregon”.

“Waters of this state” means natural waterways including all tidal and non-tidal bays, intermittent and perennial streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and non-navigable”.

Some group members asked why ODFW's definition of "waters of the state" referenced both "perennial streams" and "constantly flowing streams". They commented that this was redundant and could be difficult to explain to the public. Someone mentioned that the intent of this wording might be to include perennial streams that have been dewatered.

Tom Stahl provided copies of the following definitions from ODFW's fish passage administrative rules [OAR 635-412-0005]. There were no objections to using these definitions:

- "Stream" means a body of running waters of this state moving over the surface of the land in a *channel* or *bed* including stream types classified as perennial or intermittent and channelized or relocated streams.
- "Bed" or "bed and banks" means the physical container of the waters of this state, bounded on freshwater bodies by the ordinary high water line or bankfull stage, and on bays and estuaries by the limits of the highest measured tide.
- "Channel" means a waterway that periodically or continuously contains moving waters of this state and has a definite bed and banks that serve to confine the water.

Common Elements of Existing Fish Passage Databases

Jon Bowers distributed a "Fish Passage Barrier Data Comparison" spreadsheet showing data categories included in ODFW, CRITFC, Streamnet, CRBC, USFS, ODOT and USFWS fish passage databases.

Dave Price answered questions about Washington's fish passage barrier database, and agreed to provide their data dictionary to Jon Bowers, and information on how to access the database.

The group reviewed ten data categories to determine which should be included in the fish passage standard:

1. Identification. The group agreed to include barrier identification as a category in the data standard. The group needs to decide on the type of data that will be included (point features, linear features or polygons).
2. Location. The group agreed to include barrier location as a category in the data standard. The group agreed that GIS coordinates should be provided for all barriers.
3. Description. The group agreed to include barrier description as a category in the data standard. The group agreed that barrier description would include a subcategory for barrier type. The group needs to decide on the following issues:
 - Are barrier measurements (e.g. height, elevation, length) needed?
 - Could photographs be included as part of the description or the data source information?
 - Should information be included on:
 - Temperature
 - Velocity
 - Transient features (dewatering or subsurface flow)
4. Ownership. The group needs to decide if ownership information (i.e., information on who owns the structure or feature that constitutes the barrier) is optional or required Dave Price commented

that Washington's database provides information on three general ownership categories (federal, state and private). The group also needs to decide if information about the operator of a barrier will be included in the ownership category.

5. Life Cycle. Jon Bowers clarified that "Life Cycle" meant the "History" of a structure, and not the life cycle of fish. The group decided that historic information will not be included as a category in the data standard. Instead, the group decided to include historic information (such as when structures were built, removed, modified, or made passable) in the barrier description.
6. Passage. The group agreed to include passage information as a category in the data standard. The group needs to decide how to address fishways. Dave Price commented that Washington's database ties fishways to the barrier that created the need for the fishway. The group agreed that this must be done.
7. Species specific passage. The group decided that species-specific passage information will not be included as a category in the data standard. The group needs to decide what (if any) information on species-specific passage will be included in the passage category description.

Dave Price cautioned that data on the degree that a barrier impedes passage for a certain species can be very qualitative and is complicated to maintain in one database. Jon Bowers commented that information on how certain species are impacted by barriers can be fed into efforts for prioritizing barrier removal.

The group agreed to add a category in the data standard for "Data Source". The group needs to decide what information will be included in this category. Examples mentioned include: photographs; date of surveys or assessments; who collected the data; documents containing surveys or evaluations; where the data originated; and when data were added to the database.

8. Other. The group decided that a category for "Other" will not be included in the data standard. The group needs to decide if some of the information in this category should be included in one of the other categories. Examples mentioned include:
 - Channel habitat type
 - Comments about the obstruction (could be included under barrier description)
 - Barrier purpose (could be included under barrier description)

Lori Hennings proposed adding a category to the data standard to indicate if the barrier is in or close to critical fish habitat. The group agreed that this information was important, but that it could be considered when barriers were prioritized for removal, or as part of a fish distribution standard.

9. Culvert-Specific. The group decided not to include a "culvert specific" category in the data standard. Instead, all feature-specific information will be included in barrier description. The group needs to decide how to deal with culverts with multiple openings. Should one site locator be used for the road crossing with multiple identifiers for each pipe?
10. Prioritization. Prioritization of barriers will not be addressed in this data standard, but will be dealt with by individual users and/or a separate statewide development process after this data standard has been developed.

Summary of Agreement on Major Categories for the Fish Passage Standard

1. Identification
2. Location
3. Description
4. Ownership
5. Passage
6. Data Source

Cedric Cooney reminded the group that they agreed to use consensus to decide on the elements of the data standard. Any issue the group cannot reach agreement on will not be included in the recommendation to OGIC. Along these lines, several group members suggested that the group should reach consensus on the elements that should be required in the data standard (as opposed to the optional elements), focus on the required elements, and only address optional elements if time permits.

Next Steps

The next meeting will be held on February 27, 2007 from 9-12 at the ODFW Headquarters in Salem. Jon Bowers will develop a draft standard for review at the next meeting.

Any additional input from the group on the content of the data standard should be given to Jon Bowers by January 30th or brought to the next meeting.