Oregon Fish Passage Barrier Data Standard
Bioscience Framework Implementation Team Workgroup
Meeting Summary
February 27, 2007

Attendance List

Mike Banach	PSMFC/Streamnet		Emmor Nile	ODF
Jon Bowers	ODFW		Dave Price (by phone)	WDFW
Bob Harmon	OWRD		Bobbi Riggers	OWEB
Cedric Cooney	ODFW		Mindi Sheer (by phone)	NOAA
Stephen Cruise	Washington Co.		Tom Stahl	ODFW
Tom Erkert	USFS		Chris Stebbins	Benton Co. SWCD
Jimmy Kagan	OSU INR			
Steve Lanigan (by phone)	AREMP and PNAMP			
Gail McEwen	OCP			

Introductions

Gail McEwen asked if anyone had corrections or additions to the January meeting summary. No corrections or additions were proposed. Gail then reviewed the meeting agenda.

Feature Representation of Fish Passage Barriers

The group discussed the graphic representation that the data standard should require for fish passage barriers (points, lines or polygons). The group agreed that:

- A point (coordinates) will be the minimum required representation.
- Linear representation will be optional. Examples of barriers where linear representation would be useful are: long culverts or gradient barriers. Additionally, fishway locations could be represented by lines.
- Representation by polygons will be optional. Dams are an example of a barrier where representation by a polygon would be useful.

Topics for future discussion are:

- *How the fish passage barrier data standard will be integrated with the road centerline and hydrography standards.*
- *Whether (and how) standards for identifying barrier location will be developed (for example, is the location of a culvert measured from the center of the culvert or the downstream end).*

Review Barrier Data Standard "Strawman"

The group reviewed a draft fish passage barrier data standard that identifies "required" or "optional" attribute elements under five categories. See Attachment A for a summary of the outcome of this review.

Chris Stebbins asked what a "required" attribute element is. Jon Bowers responded that a "required" element was one needed in order to exchange data. The geodata compatibility guidelines state that every standard should contain a minimum set of graphic and attribute data elements. The minimum graphic and attribute data elements must be included in order to comply with the standard. Often times, valid values for required elements may include 'unknown' or, in unique cases even allow for null values, but the attribute itself must be included when the data are exchanged.

Data Source

Jon Bowers noted that at the January meeting the group identified "data source" as a major attribute category in the fish passage barrier standard. However, the draft standard being reviewed today incorporates the "data source" category into the other five attribute categories. There were no objections to this change.

- The group agreed that the word "Barrier" would be replaced by "Passage", which would come as the first identifier in all element names for the data standard. This will facilitate data source identification when these data are used with other data.

Identification

- Barrier_ID The group agreed that this attribute element:
    - Will be renamed Passage_ID
    - Will be a corporate-generated unique identifier for each fish passage feature at a site (for example, at a site with multiple culverts each culvert would have its own unique passage_id)
- Originator_barrier_ID The group agreed that this attribute element:
    - Will be renamed Passage_originator_ID
    - Will be a required element
    - Will be a unique identifier for each fish passage feature at a site, generated by the entity that provides the data (note: if the entity/originator does not parse out separate structures at a single site then the corporate system will not have that detail. The standard includes an attribute titled, "passage_multiple_features_yes_no" to flag sites where multiple features exist. If the originator identifies a site as having multiple features, a business rule needs to be established whether it will be required to uniquely identify each of the features at the site or not).
    - If there is only one fish passage feature at a site, the Passage_originator_ID will be the same as the Passage_originator_site_ID
- Barrier_originator_name The group agreed that this attribute element:
    - Will be renamed Passage_originator_name
    - Will be a required element
    - Will identify the entity that provided the data
- Passage_site_ID The group agreed to add this additional attribute element. This attribute element will be a corporate-generated unique identifier for a site. It will be the same as the passage_id in cases where a single passage feature exists at a site.
- Passage_originator_site_ID The group agreed to add this additional attribute element. The group agreed that this attribute element:
    - Will be a required element
    - Will be a site id generated by the entity that provides the data

- Will be the same as the Passage_originator_ID if there is only one fish passage feature at a site

The advantage of a passage originator site id is that it will allow data to be exchanged between the corporate database and any originator databases and the linkage between site id's will be maintained.

Emmor Nile noted that it is possible to have two records coming from different agencies for the same passage barrier. *The group agreed that a business rule needs to be developed to deal with this situation.*

- Passage_data_revision _date The group agreed to add this additional attribute element as a required element. This element will be corporate-generated, and will indicate when revised barrier data was entered into or updated in the corporate system. (See additional discussion below under Barrier_location_data_creation_date)

<u>Location</u>

- Barrier_longitude The group agreed that this attribute element:
  - Will be renamed Passage_longitude
  - Will be a required element
  - The minimum acceptable accuracy will be 4 decimals, with 6 desired
- Barrier_latitude The group agreed that this attribute element:
  - Will be renamed Passage_latitude
  - Will be a required element
  - The minimum acceptable accuracy will be 4 decimals, with 6 desired
- Barrier_location_collection_method The group agreed that this attribute element:
  - Will be renamed Passage_ location_collection_method
  - Will describe how latitude and longitude was collected or generated (e.g., GPS, digitizing, linear referencing)
  - Will be a required element

  The group also agreed that a business rule needs to be developed to specify whether coordinates will be required to be based on the WGS 84 reference system, or if data originators can submit what they have and the corporate system will do any necessary conversion.
- Barrier_location_accuracy The group agreed that this attribute element:
  - Will be renamed Passage_ location_accuracy
  - Will be a required element

  The group did not reach consensus on whether a minimum accuracy for barrier location should be specified. One group member suggested that a business rule could be developed to address this question. Emmor Nile commented that it is possible to use the same accuracy numbers that the cadastral framework team uses. However, these numbers are only meaningful if you have the lookup table. A minimum accuracy standard like + or – 40 feet is more understandable. Jon Bowers commented that the Road Centerline Standard has a section on GPS that might be helpful. Cedric Cooney commented that information on barrier location accuracy may not always be known, and that "unknown" should be a valid response to barrier location accuracy.
- Barrier_location_data_source The group agreed that this attribute element:
  - Will be renamed Passage_ location_originator_name
  - Will identify who collected the barrier location information
  - Will not be a required element
- Barrier_location_data_collection_date The group agreed that this attribute element:

- Will be renamed Passage_ location_data_collection_date
- Will be a required element
- Will identify when the barrier location data was collected
- Should allow entry of either a date, a month/year, a year or "unknown"

- Barrier_location_data_creation_date The group agreed that this attribute element:
  - Will be renamed passage_data_revision_date and will be part of the "Identification" attributes
  - Will be a corporate-generated date showing when the feature data was entered or updated in the corporate system. This information will allow someone to download data entered into or updated in the system after a certain date.
  - Will be a required element

  The group agreed there must be a method for maintaining older versions of data, whether that be tracking individual record changes or maintaining versions of the corporate system. *A business rule is needed for this. The business rule would also address the minimum update that would constitute a date change, and the required frequency of updates.*
- Barrier_site_location The group agreed that this attribute element:
  - Will be renamed Passage_coordinate_description
  - Will identify the exact location that the coordinates refer to if known (e.g., culvert outlet, center or upstream edge of the dam, etc.)
  - Will not be a required element
- Barrier_stream_id The group agreed that this attribute element:
  - Will be renamed Passage_stream_id
  - Will not be required
  - If stream identification information is provided, the standard Framework Hydrography LLID routing system should be used. *A business rule for this will be established.*
  - The use of the single Framework standard will be tested and if multiple route systems are deemed necessary, then this business rule may need to be changed and additional attributes (e.g. route_system_id) added.
- Barrier_stream_mile The group agreed that this attribute element:
  - Will be renamed passage_stream_mile
  - Will not be required
- Barrier_stream_name The group agreed that this attribute element:
  - Will be renamed passage_stream_name
  - Will not be required. Some group members noted that stream names were not populated in the Forest Service database. If stream name information were a required element, the Forest Service data would have to have "unknown" entered for this element
- Barrier_road_id The group agreed that this attribute element:
  - Will be renamed passage_road_id
  - Will not be required
  - Will initially use the Oregon Road Centerline standard, and if multiple route systems are deemed necessary, then this business rule may need to be changed and additional attributes (e.g., road_system_id) added.
- Barrier_road_mile The group agreed that this attribute element:
  - Will be renamed passage_road_mile
  - Will not be required
- Barrier_road_name The group agreed that this attribute element:
  - Will be renamed passage_road_name
  - Will not be required

- County, Congressional District, and/or Watershed The group discussed whether the database should include optional attribute elements to identify the county, congressional district and/or watershed where the barrier is located. The group agreed to table this discussion until more is known about the potential uses of the data. Also, concern was voiced that these data can be derived based on location and it might be difficult to determine where to "draw the line" in terms of which derivable location attributes to include.

Description
Due to lack of time, the group agreed to review the "Description" and "Passage" categories at the next meeting.

Ownership
- Barrier_owner. The group agreed that this attribute element:
  - Will be renamed passage_owner
  - Will not be required
  - Will identify the owner of the passage feature or "asset"
- Barrier_land_owner The group agreed that this attribute element:
  - Will be renamed passage_land_owner
  - Will identify the owner of the land where the passage feature is located
  - Will not be required
- Barrier_manager The group agreed that this attribute element:
  - Will be renamed passage_operator
  - Will not be required
- Barrier_ownership_data_source The group agreed that this attribute element:
  - Will be renamed passage_ownership_originator_name
  - Will be required only if any other ownership-related elements are provided
- Passage_Fishway_owner The group agreed to add this additional attribute element. The group agreed that this element would not be required.
- Passage_owner_type The group agreed to add this additional attribute element to characterize the owner of the passage feature (e.g., private, state, federal). The group agreed that this element would not be required.
- Passage_landowner_type The group agreed to add this additional attribute element to characterize the owner of the land where the passage feature is located (e.g., private, state, federal). The group agreed that this element would not be required.

<u>Next Steps</u>

Based on the discussion at the meeting, Jon Bowers will develop a more detailed draft standard and distribute it one week prior to the next meeting.

The group agreed to reschedule the next meeting from March 27 to March 20 to avoid some scheduling conflicts. The March 20 meeting will be held from 9:00 – 12:00 at the ODFW office in Salem.

An additional meeting was scheduled for April 3rd. The regularly scheduled April 24th meeting will also take place as previously planned.

Attachment A
Oregon Fish Passage Barrier
Data Standard

As revised on February 27, 2007

Data Characteristics

Attribute or Non-graphic Data Elements

Category	Item Name	Required	Comments
Identification	Passage_ID	Yes	Corporate-generated feature identification code for each feature at a site
	Passage_originator_ ID	Yes	ID from source database
	Passage_originator_name	Yes	
	Passage_site_ID	Yes	Corporate-generated unique identifier
	Passage_originator_site_ID	Yes	
	Passage_data_revision_date	Yes	(8 digit format) Corporate-generated
Location	Passage_longitude	Yes	Geo-dd, 4 decimals
	Passage_latitude	Yes	Geo-dd, 4 decimals
	Passage_location_collection_method	Yes	
	Passage_location_accuracy	Yes	(e.g., 1:24,000, +/- 40 feet)
	Passage_location_originator name	No	
	Passage_location_data_collection_date	Yes	(8 digit format, e.g., 20070227)
	Passage_coordinate_description	No	Exact location that coordinates refer to (e.g. culvert outlet)
	Passage_stream_id	No	LLID Routing System
	Passage_stream_mile	No	3 decimal places (5 feet)
	Passage_stream_name	No	
	Passage_road_id	No	Oregon road centerline standard
	Passage_road_mile	No	3 decimal places (5 feet)
	Passage_road_name	No	
	County, congressional district and/or watershed		Decision deferred
Description	**Not reviewed at 2/27/07 meeting**		
	Passage_type	Yes	See proposed categories
	Passage_name	Yes	Null OK
	Passage_height_feet	Yes	
	Passage_length_feet	No	
	Passage_slope_percentage	No	
	Passage_origin_year	No	Year of statehood for natural barriers
	Passage_planned_removal_year	No	
	Passage_removed_date	No	(required only if removed)
	Passage_description_data_source	Yes	
	Passage_multiple_features_yes_no	Yes	Site-id for multiple features
	Passage_purpose	No	Reason for feature
	Passage_channel_form	No	Geomorphic channel form at feature

Ownership	Passage_owner	No	Who owns the feature
	Passage_land_owner	No	Who owns the land the feature is on
	Passage_operator	No	Who is the feature operator
	Passage_ownership_originator_name	Yes	Required only if any other ownership-related elements are provided
	Passage_fishway_owner	No	
	Passage_owner_type	No	
	Passage_landowner_type	No	
Passage	**Not reviewed at 2/27/07 meeting**		
	Passage_passage_status	Yes	
	Passage_seasonal_yes_no	No	
	Passage_fishway_yes_no	Yes	
	Passage_fishway_status	Yes	
	Passage_fishway_type	Yes	
	Passage_passage_data_source	Yes	

Classification of Attribute Elements

Passage type code (passage_type). Source: ODFW / StreamNet.

Code	Description
Dam	Dam
Culvert	Culvert
Hatch_rel	Hatchery-related
Falls	Falls
Cgv	Cascades / gradient / velocity
Debris_jam	Debris jam
Tide_gate	Tide gate
Unk	Unknown

Passage status code (passage_status). Source: ODFW / StreamNet.

Code	Description
Blocked	Not passable
Partial	Partially passable
Passable	Completely passable
Unk	Unknown

Fishway passage status code (fishway_status). Source: ODFW / StreamNet.

Code	Description
NA	N/A – No fishway present
Func_okay	Functioning
Needs_work	Needs work
Unk	Unknown
Hatch_conflict	Fishway not wanted – conflict with hatchery
Unspec_conflict	Fishway not wanted – unspecified reason
Mit_by_hatch	No fishway – mitigation by hatchery
Mit_by_trap	No fishway – mitigation by trap
Mit_by_unspec	No fishway – mitigation unspecified
Abandon	Abandoned fishway – no longer needed

Fishway type code (fishway_type). Source: ODFW / StreamNet.

Code	Description
Vert_slot	Vertical slot
Pool_chute	Pool and chute
Rough_chan	Roughened channel – includes culverts
Denil	Denil
Mech_trap_haul	Mechanical – trap and haul
Other	Other
Unspec_lad	Unspecified ladder
Na	Not applicable
Unk	Unknown