

**Oregon Fish Passage Barrier Data Standard
Bioscience Framework Implementation Team Workgroup
Meeting Summary
March 20, 2007**

Attendance List

Mike Banach	PSMFC/Streamnet		David Graves	CRTFIC
Jon Bowers	ODFW		Gail McEwen	OCP
Cedric Cooney	ODFW		Bobbi Riggers	OWEB
Stephen Cruise	Washington Co.		Mindi Sheer (by phone)	NOAA
Tom Erkert	USFS		Chris Stebbins	Benton Co. SWCD
Al Doelker	BLM			

Introductions

Gail McEwen asked if anyone had corrections or additions to the February meeting summary. No corrections or additions were proposed.

Cedric Cooney requested that the barrier data strawman (as revised after this meeting) be placed on the Oregon Consensus Program website in a way that makes it easier to locate (as opposed to being only an attachment to the meeting summary). Gail agreed to do this.

Revisit Workgroup Workplan Timeline

Jon Bowers stated that a “preliminary final draft” Fish Passage Barrier Data Standard will be presented at the Oregon Geographic Information Council (OGIC) sponsored Standards Forum on June 27th. We will be seeing approval at the June 27th Forum from the Oregon GIS community to advance the standard to OGIC for endorsement. Draft standards must be posted on the OGIC website 30 days before the June 27 meeting (i.e., May 29) for review and comment by the Oregon GIS community. In response to a question from Mindi Sheer, Jon stated that in addition to posting the standard on the OGIC website, OGIC also notifies the Oregon GIS list serve about the proposed standard.

Because May 29 is Memorial Day, the standard may need to be posted on Tuesday, May 30 or Friday, May 26. Jon will check on this.

The Workgroup has only three scheduled meetings between now and May 26 (April 3, April 24 and May 22). After the April 24th meeting, the workgroup will begin a “testing” phase where originators of fish passage barrier data will convert their data to the draft standard format to identify any problems or issues with the standard.

In response to questions, Jon listed some tasks that the group must complete to develop the draft standard: 1) decide on units and values; 2) develop definitions; and 3) develop business rules. Jon said he would like to keep the draft standard simple to get it out for review. More complexity can be added in a later version of the standard, if necessary.

Cedric Cooney asked if the group would review the comments and requests for amendments that the larger GIS community makes on the draft standard (between May 26th and June 27th). Jon responded that the workgroup should review any substantive amendments by conference call or possibly at an in-person meeting.

Cedric Cooney requested more information on what the June 27 OGIC presentation will involve. Jon responded that this issue will be discussed at the April 3rd Workgroup meeting that Gail Ewart (Department of Administrative Services) will be attending.

Critique Barrier Data Standard “Strawman”

Jon reminded the group that the term “barrier” was changed to “passage” in all categories to reflect the fact that not all passage features are barriers.

Tom Erkert asked if the standard would address temperature or chemical barriers. Jon responded that the scope of the standard had been discussed at a previous meeting. The group had agreed to leave temperature and chemical barriers out for now, and expand the scope of the standard later if needed.

The group reviewed the “Description” and “Passage” categories of the draft standard to identify “required” or “optional” attribute elements. The outcome of this review is summarized in Attachment A

Description

- **Passage_type** The group agreed that this attribute element:
 - Will be renamed `passage_feature_type`. The group agreed that simply naming this attribute element “type” would create problems when overlaying layers of data. Some group members commented that the term “passage” will need to be abbreviated in shape files.
 - Will be a required element
- **Passage_name** The group agreed that this attribute element:
 - Will be defined as the name of the passage feature (e.g., dam)
 - Will be a required element
 - The group discussed what “required” attribute element means. Jon Bowers referred to the discussion on page 2 of the summary of the February 27, 2007 minutes. A “required” or “minimum” attribute element is one that must be included when data are exchanged in the standard format. A required element will consist of a field that is populated with valid values based on a specified domain. (valid values could potentially include “unknown” or “null”). Some required attributes will be populated within the Framework dataset (corporate level).
 - *Business rule.* The group discussed the fact that some passage features (e.g., dams) have names while other passage features (e.g., culverts and many falls) do not. A business rule is needed on how to record unnamed passage features in the database (“unknown”, “unnamed” or null). David Graves suggested that this business rule could be applied at the corporate end.
- **Passage_height_feet** The group began by discussing the purpose of the `passage_height` and other dimensional attribute elements (i.e., length, width, slope), and how these attribute elements relate to fish passage barrier assessment.

The passage_height and other dimensional attribute elements in the fish passage barrier data standard are intended only to capture the essential parameters of the feature relating to passage (such as dam height). The intent is to give database users some idea of the scale of the passage barrier. The dimensional attribute elements are not intended to provide sufficient information for a detailed assessment of fish passage barriers.

Cedric Cooney reminded the group that the vision was to establish three committees: 1) a fish passage barrier standards committee (this group); 2) a fish passage assessment committee and 3) a fish passage barrier prioritization committee. The assessment committee will be responsible for developing a standard protocol to assess fish passage barriers. The assessment committee will need to consider passage height and other dimensional aspects of fish passage barriers in detail as they develop their protocol.

Business rule. The group agreed to develop a business rule for defining what each dimensional attribute represents for different types of passage features, including the units of measurement and the points from which the measurements are made.

The group agreed that the passage_height_feet attribute element:

- Will be renamed passage_height The group felt that although units of measurement need to be specified, they do not need to be included in the attribute name.
 - Will not be a required element. The group agreed that passage_height (and other dimensional attributes) will not be required because this information is not essential to make the passage data standard useful, at least at a basic level
- Passage_length_feet The group agreed that this attribute element:
 - Will be renamed passage_length The group felt that although units of measurement need to be specified, they do not need to be part of the attribute name.
 - Will not be a required element.
 - Passage_width The group agreed to add this as a new attribute element. This attribute element will not be a required element.
 - Passage_slope_percentage The group agreed that this attribute element:
 - Will be renamed passage_slope The group felt that although units of measurement need to be specified, they do not need to be part of the attribute name.
 - Will not be a required element.
 - Passage_origin_year This attribute element will identify the year the passage feature was built or installed. The group agreed that this attribute element:
 - Will not be a required element
 - For natural barriers, the passage origin year will be the year of Oregon's statehood (1859) unless the feature is known to have a more recent origin year
 - Passage_planned_removal_year The group agreed to eliminate this attribute element because this information will not be known for most passage features.
 - Passage_removed_date The group agreed that this attribute element will be a required element

- **Passage_modified_date** The group agreed to add a new attribute element to track modifications to passage features (other than removal) that improve fish passage (such as installing baffles). This attribute element will not be a required element.

The group also agreed that any public release of the database will reflect the features as they currently exist on the ground. However, there will be a way to maintain historical records.

- **Passage_description_data_source** Jon Bowers explained that the purpose of this attribute element is to track where passage feature description information comes from. The group agreed that description information for the same passage feature may come from a different source than identification or location information, for example, and it is important to allow for the ability track this separately. The group agreed that this attribute element:
 - Will be renamed **passage_description_originator_name** to be consistent with the terminology used in the “Identification” and “Location” categories
 - Will not be a required element
 - *Business rule.* The group agreed that a business rule is needed to address whether description data submitted by one person can modify data submitted by someone else. This issue applies to overall data integration issues, outside of the “Description” category of attributes.
- **Passage_multiple_features_yes_no** The group agreed that this attribute element:
 - Will be renamed **Passage_multiple_features** The group agreed that “yes_no_” does not need to be part of the attribute name.
 - Will be a required element. The group agreed that this attribute element is important because it gives casual database users one location where they can go to determine if there is more than one passage feature at a site.
- **Passage_purpose** The group agreed to eliminate this attribute element to simplify the standard. In addition, some group members felt that a determination of “passage purpose” could be too arbitrary.
- **Passage_channel_form** The group agreed to eliminate this attribute element to simplify the standard.

The group then reviewed three additional attribute elements proposed by Tom Stahl:

- **Barrier_width.** The group agreed that this suggestion had been addressed by the addition of **passage_width** (see discussion above)
- **Barrier_drop.** The group agreed to add this attribute element. This attribute element:
 - Will be renamed **passage_drop** to be consistent with other attributes in this category.
 - Will not be a required element.

The group again discussed the assessment committee that will be established in the future to develop a standard protocol for assessing fish passage barriers. The group recognized that the assessment committee will address the issue of passage drop in detail as they develop their protocol.

- **Barrier_material.** The group agreed not to add this additional attribute element because they felt that the standard did not need to contain this level of detail.

Passage

The issue of having the name “passage” multiple times in an element name needs to be addressed.

- **Passage_passage_status** The group agreed that this attribute element will be a required element.

Tom Erkert mentioned that the USFS protocols have individual passage determinations for different species and life stages. Tom asked how the fish passage barrier data standard would address this issue. Jon Bowers replied that the fish passage barrier database was intended to provide only very generalized passage information, not a full assessment of fish passage barriers.

- **Passage_seasonal_yes_no** The group agreed to eliminate this attribute element because of a lack of data on seasonality of fish passage.
- **Passage_fishway_yes_no** Jon explained that this attribute element will show whether there is a fishway associated with a passage features at a site. In response to a question from Mike Banach, Jon Bowers explained that according to Tom Stahl, weirs placed below a culvert are not considered a fishway. The group agreed that this attribute element:
 - Will be dropped.
 - *Business rule.* The group agreed that fishways will NOT have a separate passage id, but will tracked via an attribute that is associated with a specific passage feature.
- **Passage_fishway_status** Jon Bowers explained that this attribute element was intended to describe how well the fishway is functioning in terms of providing passage. The group agreed that this attribute element:
 - Will be a required element and will include status categories such as “Not applicable” where passage features have no associated fishways (e.g. culverts).
 - This element will be inclusive of all fishway status types and negates the need for a “passage_fishway_yes_no” flag field.
- **Passage_fishway_type** The group agreed that this attribute element will not be a required element.
- **Passage_passage_data_source** The group agreed that this attribute element:
 - Will be renamed as **passage_passage_originator_name** to be consistent with the terminology used in other attribute elements.
 - Will not be a required element, unless other elements in the “Passage” category are provided.
 - *Business rule.* A business rule needs to be established to specify whether data from separate originators will be integrated into single records that describe a specific passage feature.
 - The group also decided that, for consistency, the **passage_ownership_originator_name** should also not be a required element, unless other ownership-related elements are provided.

- **Passage_status_date** Cedric Cooney proposed adding an attribute element to track the date when the passage status (the way fish interact with the feature) was last evaluated. The **passage_removed_date** and **passage_modified_date** attribute elements in the “Description” category provide information on when the feature was removed or modified. However, passage status can change for reasons other than feature removal or modification (for example, a culvert blocked by stones). In addition, modifications to features may or may not change the passage status. The group agreed that it was important to track when passage status changes or when it was last evaluated.

Bobbi Riggers commented that OWEB’s database tracks completed restoration projects, but in many cases the determination of passage status is made based on project design, not by looking at passage. Therefore, in many cases the feature modification date will be the same as the **passage_status_date**.

David Graves asked what happens if a structure is modified more than once. Jon Bowers replied that the database will have a system for archiving data.

The group agreed that this attribute element will be added as a required element.

Jon Bowers then reviewed three attribute elements that Tom Stahl recommended for addition.

- **Passage_assessment_method** Tom Stahl recommended adding an attribute element to describe the method used to assess passage (i.e., project design, professional judgment, other). The group agreed that this attribute element will be a required element
- **Passage_fishway_origin_year** The group agreed to add this as a new attribute element. This will not be a required element.
- **Barrier_screen**. The group felt that this level of detail was not necessary, and agreed not to add this as an attribute element.
- **Screen_origin_year**. The group felt that this level of detail was not necessary, and agreed not to add this as an attribute element.

Next Steps

Jon Bowers wants to consult Gail Ewart at DAS about whether it is better to designate an attribute as required and provide flexibility in how fields are populated (for example, by allowing fields to be populated with “other” or “unknown”) or if it is better to make the attribute optional.

At the April 3 meeting, the group will:

- Review the barrier data standard strawman (Attachment A) to quickly verify the agreements reached at the February and March meetings
- Review attribute element definitions
- Review the “Classification of Attribute Elements”

Chris Stebbins requested that the next version of Attachment A put common elements in the same order in each category (for example, information on “originators”).

Bobbi Riggers suggested that a numeric be used for codes.

Mindi Sheer commented that the passage attribute elements do not contain any species-specific information. Mindi said that this is important information for her, and that she has seen this type of information in different data sets.

Jon Bowers responded that the group had discussed this issue at an earlier meeting and concluded that the standard did not need to contain this level of detail.

Cedric Cooney read from the January meeting summary where this issue was discussed:

“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. “

The next meeting will be held from 9:00-12:00 on April 3 at the ODFW office in Salem. Jon Bowers asked the group to contact him before the April 3 meeting if anyone has strong feelings about the classification of attribute elements.

Attachment A

Oregon Fish Passage Barrier

Data Standard

As revised on March 20, 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_site_ID	Yes	Corporate-generated unique identifier
	Passage_data_revision_date	Yes	(8 digit format) Corporate-generated
	Passage_originator_ID	Yes	ID from source database
	Passage_originator_name	Yes	
	Passage_originator_site_ID	Yes	
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_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
	Passage_location_originator name	No	
Description			
	Passage_feature_type	Yes	See proposed categories
	Passage_name	Yes	Null OK
	Passage_height	No	
	Passage_length	No	
	Passage_width	No	
	Passage_slope	No	Primarily for culverts and gradient barriers
	Passage_drop	No	
	Passage_origin_year	No	Year of statehood (1859) for natural barriers

			Null OK
	Passage_removed_date	Yes	(required only if removed)
	Passage_modified_date	No	
	Passage_multiple_features	Yes	Site-id for multiple features
	Passage_description_originator_name	No	
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_fishway_owner	No	
	Passage_owner_type	No	
	Passage_landowner_type	No	
	Passage_ownership_originator_name	No	Required only if any other ownership-related elements are provided
Passage			
	Passage_passage_status	Yes	
	Passage_status_date	Yes	
	Passage_assessment_method	Yes	
	Passage_fishway_status	Yes	Required only if answer to fishway is "yes"
	Passage_fishway_type	No	
	Passage_fishway_origin_year	No	
	Passage_passage_originator_name	No	Required only if other Passage elements are provided

Draft - 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

