

Oregon Hydrography Framework Group Meeting

Thursday, August 4th, 2011

1:00 – 3:30 p.m., Conference room 124B

North Mall Office Building, 725 Summer St. NE, Salem

Attendees:

Bob Harmon, OWRD, Hydro Chair

Dick Lycan, PSU

Roger Edwards, Oregon Lakes

Dan Wickwire, BLM/PNWHF

Tamiko Stone, BLM

Jay Stevens, BLM

Jed Roberts, DOGAMI

*Ian Reid, NRCS (Oregon)

* - on conference call

Jennifer Peterson (OSMB) [Marine Board]

Ashley Massey (OSMB)

Mindy McCartt (OSMB)

Chris Strobl (USFS)

Jon Bowers, ODFW

Milt Hill, DAS GEO

*Malavika Bishop, DEQ

*Phil McClellan, Revenue

Agenda [note, slides from meeting appended to these notes]:

- 1) Welcome & intro; Bob
- 2) Introductions, Group
- 3) Updating the Oregon Hydro Standard
 - a) Brief background on where we're at; Bob

Current state standard based on the LLID (whole stream route), developed by the (regional) Pacific Northwest Hydrography Framework group (PNWHF; 1998-2001) and adopted by OGIC (Oregon Geographic Information Council) in 2002. The PNWHF migrated to the NHD (National Hydrography Dataset; 2005-2009) and is now in maintenance & stewardship mode.

The PNWHF partners updated and signed a MOU between them in 2009 recognizing the NHD as the region's hydro data model and formalizing stewardship roles & responsibilities. In turn, the PNWHF signed another MOU with the USGS recognizing the PNWHF partnership as the steward for the NHD in Oregon and Washington.

The state hydro standard needs to be updated to reflect this significant change to the data model adopted by the PNWHF partnership and to recognize the incorporation of the WBD (Watershed Boundary Dataset) into the NHD. Washington recently updated their standard (Jan. '11).

- b) Oregon Framework update process; Milt, Bob

Milt outlined the Oregon Framework process for revising a standard. We're starting the process today by discussing the proposed change. Bob will compile the appropriate document outlining the change and it will go out to the broader GIS community prior to the fall Oregon Framework Forum (Oct. 27th in Salem). Based on feedback on the document and discussion at the Forum there may be revisions made to the proposal. It's understood that the NHD is a national data model and that it has a separate change management process, but Oregon may need to extend the model to

meet internal agency business requirements if this need is demonstrated. The BLM, in Oregon, has done this with its Aquatic Resource Management System (ARIMS) and the USFS has with its Natural Resource Information System (NRIS).

The point was also made that migration of state agency hydro data sets to the NHD is separate from adoption of a new standard (see “outcomes” at the end of this document). Strategies need to be developed to chart a path for Oregon state agencies to fully adopt the NHD and to begin migrating their aquatic information holdings to reference the NHD. It is recognized that there are significant challenges to accomplishing this and that strategic planning will greatly assist this effort. Bob will begin the process of drafting a State of Oregon NHD Migration Plan.

Milt brought up an option recently made available to the state Framework process. Once a standard is approved by OGIC and signed by its chair, the State CIO, they have the ability to make it mandatory for state agencies. The group agreed to start the process of revising the standard.

c) Update on NHD migration; Bob, group

OWRD (Bob): OWRD has maintained a whole stream identifier on streams with water rights for 25+ years. It is currently an attribute on the last LLID Framework data set (2006) and will be migrated to the NHD as an event,.

ODFW (Jon): Jon reported on ODFW’s work on the Fish Passage & Barrier data sets. It’s still largely at the planning stage. They still have a need for a whole stream identifier and they will be working with OWRD as they migrate to the NHD.

Jon also summarized a recent StreamNet meeting and highlighted the different approaches taken by the member states’ fish and wildlife/game agencies. The Oregon and Washington agencies will use the NHD as their primary template for managing fish data and report back to StreamNet using a whole stream identifier. The Idaho and Montana agencies will continue maintaining their data on a whole stream routed theme while attempting to keep the geometry synchronized with the NHD.

The Fish Passage Barrier data is being migrated to the NHD and maintained with the HEM tool.

DEQ (Malavika): The DEQ Water Quality Division programs still uses the 100K LLID data for its attributes. There is currently no mandate from the EPA to use the NHD river reach codes when reporting under the Clean Water Act. Budget impacts haven’t helped either, but there may be assistance available from the EPA since they’re one of the initial developers of the NHD.

Lakes project (Dick Lycan): Dick reported that the new Oregon Lakes Atlas is about to be released online. He is using the NHD identifier for the lakes in the Atlas and has been less successful tying them back to the LLID. Roger is working with Sheri Schneider (USGS), and OWRD, to make corrections to the lake name in the NHD and GNIS.

DOGAMI (Jed): DOGAMI digitizes streams from the LiDAR (bare surface model derivative). These are used in their map products and flood analysis for FEMA. They are interested in what it would take to get their data into the NHD and have had

meetings with representatives from the PNWHF to that end. This is an ongoing discussion and additional opportunities will be pursued for increased cooperation between the PNWHF and DOGAMI. DOGAMI has contributed data for a study area in the PNWHF's LiDAR pilot (DOGAMI LiDAR viewer [link](#)).

DOR (Phil): The Dept. of Revenue coordinates the development of the statewide tax lot theme amongst the 36 counties. While they use hydrography as a base the DOR and counties don't create or edit hydro features.

Marine Board (Ashley): Ashley talked about some of the products that they have produced for data.oregon.gov, including [boat access facilities](#) and ["clear" gas locations](#). These are point locations, by lat/long, displayed in Google Maps. They are also interested in the issue of water feature names and making sure that they're using the "official" name. Bob will send them links to the [GNIS query tool](#) and [Oregon Board on Geographic Names](#).

Other agencies were mentioned that may have an interest in migration to the NHD and Bob will contact them when he compiles the "state agency hydro data migration document".

4) Stewardship

a) Agreement

Bob and Dan summarized the PNWHF stewardship MOUs, [process, and roles & responsibility](#) documents.

b) Contact database & web site

They also covered the PNWHF's compilation of a steward contact database that allows stewards and other users of the NHD in the region to find a steward, or stewards, for 12-digit hydrologic unit (HU; 6th-level or sub-watershed). An effort was made earlier this year to identify stewards from the partners. Van Hare, StreamNet, has been working on making the information accessible through a web map.

c) Theoretical process

Bob went through the process of taking a proposed edit to the NHD through the PNWHF stewardship process (see slides). Its intent is to make sure that all of the stewards for adjacent or overlapping jurisdictions are contacted where a hydro edit may affect the data that they have tied to the NHD.

Despite the number of possible steps the process tends to be straightforward (orange box on the slide), especially if the edit is defined as "minor" (defined [here](#) under "Additional Stewardship Issues"). If it's "major" there are a few more steps shown in the purple box in the slide.

d) Actual process, so far

For about the past two years NHD editors at the BLM have been forwarding proposed edits to Bob for his review. According to the stewardship agreement he should have his recommendations back to the editors in 5 business days. That happens most of the

time. He has only found one proposed edit that required further investigation by the BLM.

Bob went through an example of an area that he's reviewed (see last slide). He gets a zipped file geodatabase from the BLM of the template that they use with their districts. Bob drops it into an ArcMap MXD that he's set up for this process. Using the "Edit" attribute on the flowline, waterbody, or point features he can quickly distinguish the edits. He pays particular attention to the direction and connectivity of new flowlines and less to deletions and attribute changes.

There was some discussion about the timeliness of the process at the BLM and possible tweaks to the process to speed it up a little for everyone. It was determined that BLM will process edits through to the NHD while notifying the State of the change. The state will then have the opportunity to review the update and have BLM "back out" edits that are deemed inappropriate (see "Outcomes" below).

Major changes to hydro and batch updates, such as replacement of the hydrography network within an entire 10-digit HU (eg., from LiDAR based updates) will still require notification and review by the affected stewards.

5) Outcomes

a) Revised standard (Oregon Framework process)

Bob will prepare a draft revised standard and route it to Milt and the Hydro Framework group for review. (completed by: September 8, 2011)

b) State agency migration plan

Bob, with the help of his counterparts in the Oregon state agencies, will develop a plan that identifies migration issues for each agency.

c) Tweaks to NHD stewardship review:

Communication between BLM and the State of Oregon on NHD stewardship was examined. BLM is actively updating the NHD and currently provides proposed edits for OWRD (Bob's) review.

Current agreed-upon process flow (flow diagram on PNWHF website):

- (1) BLM identifies the need for an NHD update.
- (2) BLM determines whether the update meets the definition of a minor or major edit.
- (3) BLM provides all Major edits to OWRD and other affected partners for their review. OWRD has 5 working days to respond to BLM.
- (4) Once agreement is reached (or after 5 work days), BLM proceeds with the NHD update.

Actual (currently in practice) process flow:

- (1) BLM identifies the need for an NHD update.

- (2) BLM determines whether the update meets the definition of a Minor or Major edit but has been providing both levels of edits for OWRD review.
- (3) Once agreement is reached (or after 5 work days), BLM then proceeds with the NHD update.

Proposed change agreed upon on meeting:

- (1) BLM identifies the need for an NHD update.
 - (2) BLM determines whether the update meets the definition of a Minor or Major edit.
 - (3) BLM notifies OWRD concerning all proposed edits (Major and Minor) on State or Private land.
 - (4) BLM notifies OWRD concerning all Major edits proposed on Federal lands. BLM follows additional protocols for their communication with USFS.
 - (5) Regarding interaction between BLM and OWRD, BLM proceeds immediately with the NHD update in all instances except where large scale replacements, such as LiDAR based updates, are proposed. The State and other partners are always consulted for these more extensive edits.
 - (6) This streamlines the process while also providing the State with appropriate notification of edits. The State continues to have the opportunity to request additional review with possible “pulling back” of an NHD update.
- d) Oregon NHD Coastal Improvement Project: Dan relayed a conversation he had had with Sheri Schneider regarding a possible USGS grant to support a remapping of the Oregon coastline. There are no guarantees regarding the availability of funding. A grant proposal should be ready to go in the Oct/Nov timeframe this fall. All agreed that there will be much interest in this project and that it will bring a number of new participants into the mix. Dan indicated that he would like this to be a collaboration between the Oregon FIT and the PNWHF. DOGAMI has expressed interest in pursuing this grant opportunity within this context.
- e) Regular meetings of this group
- Dan highlighted that there are a number of hydro framework issues that are specific to the State of Oregon (eg. coastal NHD improvement project, Oregon Wetlands, etc). It seems to make sense to convene Oregon Framework Implementation Team (FIT) meetings that complement the regularly scheduled PNWHF Steering Committee and associated technical meetings. It was proposed that the Oregon group meet twice a year during the periods that the PNWHF is not meeting which, for now, means summer and winter. Our next meeting will be scheduled in January.

Oregon Hydrography Framework Group

August 4, 2011

North Mall Office Building, Salem

Agenda

- Welcome & intro, Bob
- Introductions, Group
- Updating the Oregon Hydro Standard
- Stewardship

Updating the Oregon Hydro Standard

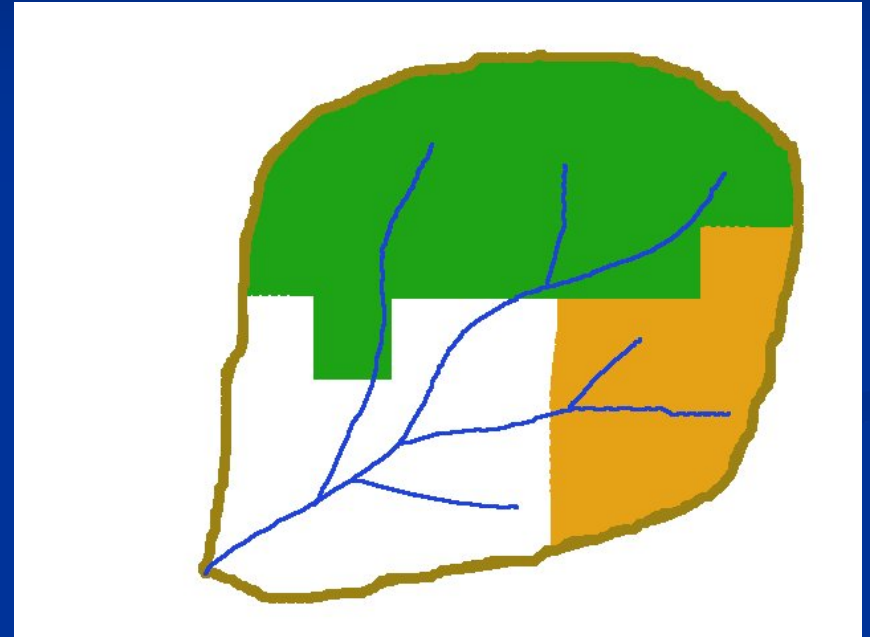
- Background
 - Current standard based on LLID (whole stream route), adopted by OGIC in 2002
 - PNW Hydro Framework Group migrated to NHD, 2005-2009
- Oregon Framework standards update process
- NHD migration
 - Agency updates
 - Plan for moving forward

Stewardship

- PNW MOU, 2009 (BLM, FS, NRCS, Oregon, & Washington) with the USGS
- Contact database & web site
 - Stewards by 12-digit HU (6th-field)
- Theoretical process
- Actual process, so far

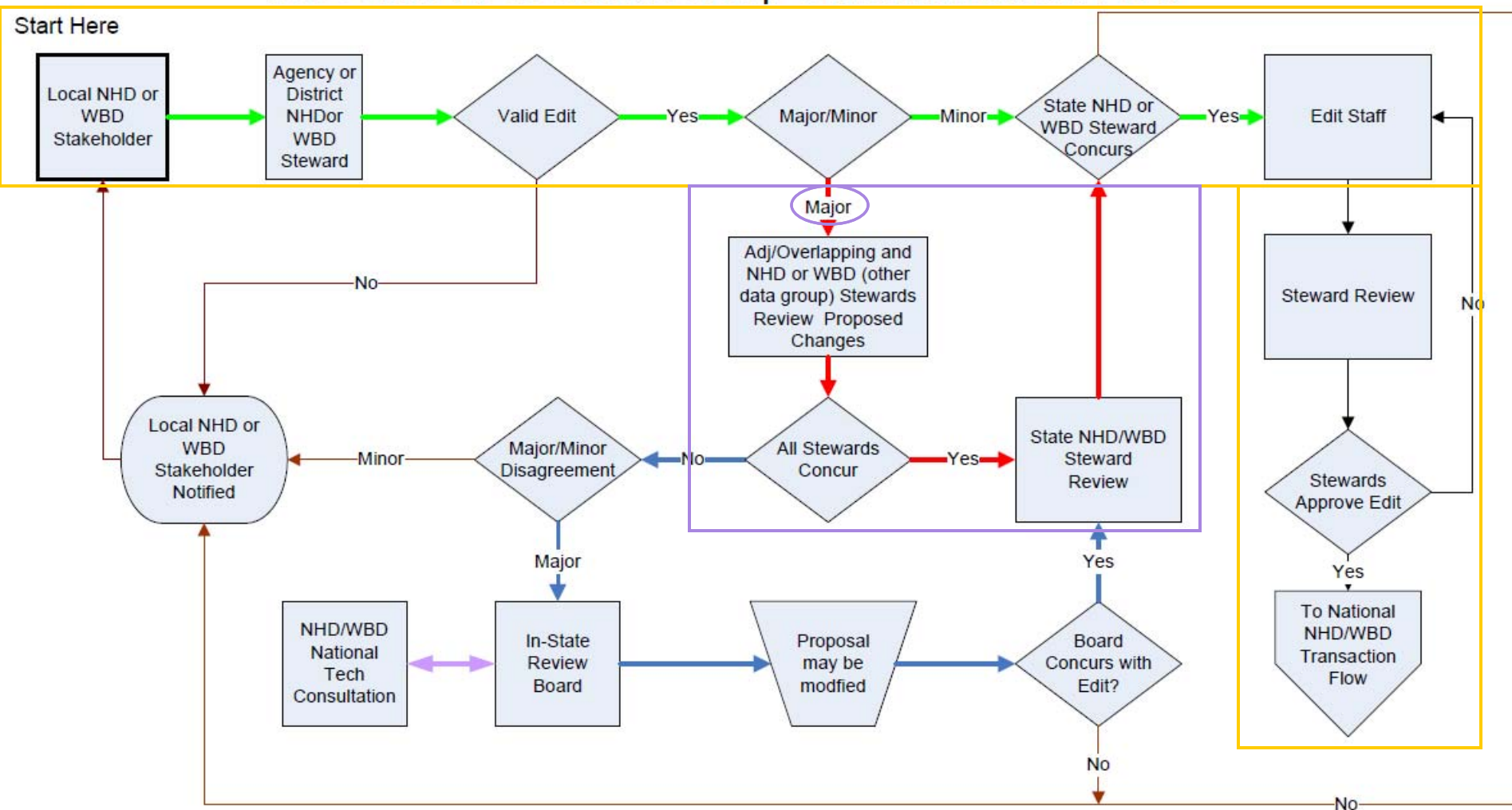
Stewardship contact database

- Agency/entity steward contact info by 12-digit HU (6th-level)
- Available as clickable map for PNW (OR/WA)



PNW Hydro Stewardship process

NHD and WBD Stewardship Communication Flow



What's a *minor* edit?

- **Alignment** changes – realign existing line-work by +/- 100 feet to fit contours or imagery
- **Repair gaps** in existing network geometry
- **Correct topology** errors – overlap, intersect and multipart feature errors
- Remove obvious **overshoots** (short dangles) from geometry; connect undershoots.
- Change **flow direction**
- **Adding** new streams – individual streams may be added when newly identified (adding large numbers of streams would need approval above some threshold)
- **Extending streams upslope** when justified by new data (field, photo, etc.)
- Reclassification of **stream type** – such as from canal/ditch to stream/river, pipeline to penstock, stream/river to artificial path, etc.
- Reclassification of **periodicity** (FCode) – perennial, intermittent, ephemeral. Correct erroneous **GNIS name and GNIS ID**
- Correct **erroneous reach codes** (gapped and branched reaches)
- Add **connectors** where an extensive stream network does not connect to the rest of the network (connectors are used when it is known that a stream flows into a network but the exact path is not known; they enable network tracing on streams that would otherwise be disconnected)

Review Example

Symbology based on “edit” attribute
(in BLM template)

- NHDFlowlineEditTemplate
- <all other values>
- Edit
- Add
- Attribute_Edit_Only
- Delete

