

## Oregon Hydrography Framework Implementation Team Meeting

Monday, February 4, 2019

Rogue conf. rm., Oregon Water Resources Dept., 725 Summer St. NE, Salem

### Attendees (\*via web/phone):

Bob Harmon, OWRD

Lowell Anthony, DOGAMI

Dick Lycan, PSU

Emmor Nile, ODF

\*Brian Fulfrost, DEQ

\*Jay Stevens, BLM

\*Anita Stohr, WA Dept. of Ecology

\*Janet Bretz, USFS

\*Margaret Matter, ODA

\*Theresa Burcsu, OSCIO GEO

### Notes (post-meeting notes in brackets “[ ]”):

#### 1) Intros

#### 2) OR Hydro FIT Charter draft

Bob presented the draft Hydro FIT charter to the group. He modified the template created by Theresa and Emmor for all of the framework groups. There wasn't much discussion. Theresa is still developing the charter review and approval process. Bob will accept comments through the end of February. [He will send it out to the entire Hydro FIT listserv (little more than twice today's attendance).]

Dick asked who was responsible for dams (listed as out of Hydro FIT scope in the draft charter). Bob replied that it falls under the Emergency Preparedness FIT. The reservoirs behind the dams (as 2D features) will be in the NHD. Dick also asked if there was a process for capturing reservoirs behind new dams. Bob said that he was working on a process with OWRD's Dam Safety section to pass information on new dams to the OWRD GIS group who would then add them to the NHD. [OWRD is statutorily responsible in Oregon for permitting and inspecting dams equal to and higher than 10-feet and storing equal to or greater than 9.2-acre-feet of water.]

Wetlands is another theme that falls out of the scope of the Hydro FIT even though it's in the NHD (tend to be the more significant ones captured on the "old" quad maps). They fall under the Bioscience FIT in Oregon. At the national level there have been occasional discussions between the USGS (NHD) and USFWS (National Wetland Inventory) about coordinating on how the theme is captured in the NHD (to be continued...).

#### 3) 2019 - 2021 Framework funding grant cycle

The Oregon Geographic Information Council (OGIC) Framework Funding cycle for the 2019 – 2021 biennium kicks off next month with the request for proposals. The completed grant proposals are due back to Theresa usually by late April or early May so that they can be reviewed and signed off on, if approved, before the next biennium.

Lowell is looking to adjust more NHD flowlines to lidar-derived elevation data. He is trying to come up with a better way to estimate how many stream channels are still missing for a given watershed. With his current methods he thinks that he's missing 10 to 30% of the network. It's difficult adding a lot more streams with the NHD edit tools. Jay mentioned the automated model developed by Craig Ducey that uses a curvature threshold flow accumulation minimum that varies a lot depending on geology, soils, and climate. They work with the hydrologists to tweak it. Jay added that there's a lot of editing of the flow initiation points and visual interpretation of the geomorphology based on various techniques of visualizing the terrain (with slope, hillshade, and topographic position index). Lowell has not tried the BLM's model yet. He'll try to meet with Craig. He has some areas in mind for more redelineation work that would be adjacent to his current work (to the east and south), but the partners in the area would need to meet before a proposal would be developed.

Emmor suggested that Lowell consider updating the WBD layer across the state. He has created 10-foot contour layer for the state that would be useful (in vector tile packages which draw very quickly). Jay also mentioned that the BLM has an interagency agreement with the USGS Water Science Center in Utah (Kimberly Jones). They're the group that oversees the WBD. Jay suggested having a meeting to check in on the (WBD) redelineation process.

There was discussion around continued coordination around our NHD editing, especially when updating large areas to match the lidar-derived elevation data. Jay thought we had a common agreement on the definition of a stream. He stated that redelineation remains in the flatter areas that have been heavily impacted by anthropogenic features (ditches and canals). He suggested bringing in someone from the USDA, and Bob added that OWRD and the Oregon Dept. of Agriculture would also like participated.

#### **4) Status of NHD/WBD related projects**

##### **a. BLM (Jay)**

Jay shared the BLM priority status map now housed in the GeoPlatform application in AGOL. It includes the Forest Service, DOGAMI, and ODF's priority NHD areas, by HU12, and show the status of the work done from planned through completion. Jay would like some feedback from current users before it's released to the public. He'll set up a call, maybe next week, to gather requirements for updates. Current priorities were identified by field staff. Additional contracting staff were hired in the fall to assist with the NHD edits. Will have two full time NHD editors, two people running the models, and funding for the next two years for two and three years for the other two.

Bob asked about the USGS management team. Jay responded that the NHD and WBD management teams were reorganized and combined. Letters were sent out to the member agencies asking for official representatives. Jay is a co-representative with the BLM's Soil, Water, & Air lead (D.C. office). The second call is tomorrow (2/5). He sensed that the group is trying to start over again. Jay asked them to revisit the 2014 national requirements & benefits study. He will keep us in the loop.

##### **b. USFS (Janet)**

Janet confirmed the Forest Service use of the GeoPlatform app that Jay mentioned in his status report. She's trying to get access to it. The Forest Service has migrated their own status tracking into it. In 2018, her team finished the top NHD lidar update priorities for

each forest and are starting on the 2019 projects. The remote sensing group is doing the lidar delineation and Janet's group is keeping pace with them pretty well.

#### **NHD Markup tool**

Bob asked if Janet is getting much input from the NHD Markup tool. She has run a few tests, but is not getting feedback from it (same with WBD). The Forest Service has their own tool that works well. They're staying with their own tracking app for the time being.

Jay has looked at it too. He would like to have a group discussion [PNW Hydro] at a more detailed level.

Anita has been getting a lot of messages from the Markup tool (~300 in one basin, for example). She suggested that there needs to be more codes. It takes a lot of time to research.

#### **c. Washington (Anita)**

Just completed a GNIS update of the NHD for the whole state (through a grant). Have been working with Skagit and King Counties to make lidar updates in the lowlands to site storm water outfalls.

Have had a lot of requests to update the Puget Sound coastline to include multiple tidal datums to support different environmental codes. Anita is figuring out where to get money.

Bob asked if the NHD will support multiple coastlines. Anita answered that it only supports one, but from a pilot she ran she found that the foreshore feature in the line feature class should suffice.

#### **d. DEQ (Brian)**

He's cleaning up the drinking water source areas so that they're more accurately clipped to the HU 12s.

#### **e. ODF (Emmor)**

Several people from Forestry are scheduled to take NHD Editor training for three sessions starting this Thursday (2/7). They've set up a virtual machine with ArcMap 10.5.1 that will run the Editor tools.

#### **f. DOGAMI (Lowell)**

Lowell outlined the lessons learned from his current (OGIC Framework funded) project to redelineate the NHD flowlines in the north central coast:

1. Reshaping versus conflation.
2. Should have retested NHD QC tools.
3. Basing expected work on number of segments in the NHD network instead of using linear stream miles.

**g. PSU (Dick)**

Working with PSU IT folks to update the Atlas of Lakes web interface. The update will support mobile devices, vector tiles, and be served out on ArcGIS Online. Testing is taking place in Lane County. Send any suggestions to Dick, soon!

PSU is moving towards service charges which means that public facing web sites will be affected starting in two years. [See Dick's handout appended to these notes.]

**h. OWRD (Bob)**

Bob spent most of the last year and a half synchronizing OWRD's streamcodes (in HEM) to the NHD (first time since 2014-15 conflation) and working through some other clean up tasks. [Meredith has taken over the process and it will be conducted on an annual basis.] OWRD stream codes are whole stream identifiers that link water right diversions and dams to the NHD and provide a basis for whole stream routes built with measures in miles (a business requirement of the agency)]. Meredith did not make many edits to the NHD last year (2018).

**5) Outcomes**

- a. Bob will write up the notes and get them out to meeting attendees to review before sending them on to Theresa where they'll be made available on the GEO site.
- b. Bob will distribute the draft Hydro FIT charter to the entire Hydro FIT mailing list and accept comments through March 1<sup>st</sup>. The final version will be sent to Theresa (for posting on GEO site).
- c. Jay will set up a meeting this month (Feb.) to get feedback on the GeoCommunicator (AGOL) app [see his status report in these notes].
- d. From Jay's notes, PNW Hydro targeted discussions around:
  - i. The markup tool and impacts on stewardship.
  - ii. Decision making process around lidar delineation: stream initiation points, and work in areas affected by anthropogenic disturbance (ag infrastructure, etc.).

## Upgrades to the Atlas of Oregon Lakes

Dick Lycan, Portland State University  
[lycand@pdx.edu](mailto:lycand@pdx.edu)



The lakes atlas now has a logo. Guess what lake it shows.

1/30/19

The Atlas of Oregon Lakes (AOL, <https://aol.research.pdx.edu/>) went on-line five years ago. Its development was supported by funding from EPA through Oregon DEQ, in part to facilitate sharing of lake water quality data. Since then there have been a few additions and changes to the website, but we now are working with PSU's web development staff to bring the website up to date and to improve the user interface.

**AOL users.** We know from Google Analytics for our site that the users are a mix of the general public (fishermen, boaters, hikers, and weekend travelers) and those with a scientific or policy interest in lakes. We know that most users don't delve deeply into the content of AOL. For example, boaters and fishermen can download 180 geo-referenced bathymetric maps of Oregon lakes, but few have taken advantage of this resource. Data on aquatic invasives and lake visitation are similarly underutilized. Five years ago most users visited AOL on their desktop computers; today most use cell phones or tablets requiring redesign of the site. Through better website design we hope to make the public more aware of this content and make it easier to utilize.

**Public presentation.** We expect that in late March or April we will have some examples of the proposed user interface to share. We may do this with a teleconference or with printed examples and written responses from you. We will keep you informed using the *GIS\_Info Digest* list serve and will contact those of you who have expressed an interest in AOL in the past via e-mail.

**Bathymetry.** By the end of summer 2019 we will provide bathymetry for Oregon Lakes and Reservoirs and other water features from the U.S. Army Corps of Engineers for download. The main clientele for these data are map makers and GIS staff. The public may access these data through the maps on their *fishfinders* provided by companies like Garmin and Lowrance.

**Support costs.** We are facing the need to pay for ongoing web support for AOL, \$2,000/year, starting in 2021. We don't know how PSU departments or deans will respond to this need and may need to seek external support to keep the AOL website on line. We would appreciate advice on this issue.