

## Minutes Hydro TWG 5/9/2019

Led by Danielle Favreau

### Attendees:

Jerry Korol	Geoffrey Klein	Evan Brown
Sabine Krier	Maya Daurio	Bekki Waskovich
William (Bill) Whitehead	Troy (MT)	Jay Stevens
Drew Nemecek	Jason Wright	Linda Davis
Alison Tompkins	Cyndi Coulter	Missy Harris

### Updates, Danielle Favreau:

**USGS** is updating the VisFilter attribute with 8 different scales; 1:24,000 to 1:5,000,000. This will limit what is visible at smaller scales, making it easier to read at different scales. Danielle will send out an email with Idaho Hydro News when available.

**WBD Model Changes.** Increasing the LineSource attribute field length. Decreasing HUType attribute field length. Adding ReferenceGNIS\_IDs attribute so that every HUC has a tieback to the GNIS name ID. Danielle will let people know when it is complete.

**NHD Plus.** The most wanted areas in need of updates has been posted. NHD Plus is now in Beta and work has started on the official version.

**Markup Reviewer.** There are constant improvements being made. Use this tool for submitting small edits and is available for everyone to use. Contact Danielle or Linda if you have questions.

**NHD Tools.** Still on ArcMap 10.5.1 and there has been no decision yet about what to do next. There is no backwards compatibility. Tools will be coming on the web.

**Deriving Stream Networks from LiDAR for State Endowment Lands** – Geoffrey Klein, RS Analyst, IDL, [gklein@idl.idaho.gov](mailto:gklein@idl.idaho.gov)

Please see slide deck-streamsfromLiDAR\_idl.pdf.

### Introduction

- Couer de Alene region buys a lot of LiDAR in order to improve the stream layer
- A lot of data is still being QA/QC
- Some data is proprietary and cannot be shared
- Things that need improvement
  - Level of accuracy of stream and road layers

**Channels are way more accurate**

- Looking for defined stream channel bed
  - Changes in timber practices are based on stream location
- Defining streams into 2 categories
  - Type 1 – has fish
  - Type 2 – no fish
  - A lot of work is going into finding out which is which
- Limitations
  - Accuracy issues with adjacent “forest butte” (See slide 7)
  - Looking at effects on the stream by management practices

### **Deriving the streams**

- Problems
  - Data so accurate that it shows the stream lines following the roads when culverts are in use
    - Bridge and culvert data is not as accurate as LiDAR data
    - Still had to find points where streams cross roads
    - Helps in creating new culver/bridge layers, but takes a lot of manual hours
- Using ArcPro to easily share data across the state for hydrologist and other staff input (see slide 10)
  - Geoprocessing tools work fast and clean
    - The stream delineation tool has been working very well
    - Task Designer can be shared with others and is very useful to pass work on
- Process
  - See slide 11 for Process chart
  - DEM Burn areas
    - Change elevation raster data to lower value, then Fill
      - You end up with a hole in roads that helps you with stream creation
  - Flow Accumulation
    - Set threshold for finding streams in order to not create too many new streams
    - A lot of field validation was done to make sure a stream is actually there
    - Geology and soil type can really affect the accuracy of stream existence
    - Next step
      - Get to stream predictive modeling
        - Give a spot a predictive rating on actual stream existence
        - Hard to scope out

### **Stream Monitoring Project (Slides 14-18)**

- Introduction

- For more information, contact Geoff and he will put you into contact with the Project Lead
- Haven't had any historic change tracking
- Started taking samples for environmental changes
  - Looking at fish populations
  - Using drones to model stream channels for monitoring purposes
    - How is the channel changing and how is run off changing
  - Will continue yearly monitoring and possible reconstruction practices
- PhoDAR
  - Take a bunch of geologged pictures, run algorithms to turn it into a 3D model
  - By using NDVI from drone data, chlorophyll levels can be calculated
  - Right now, data is being collected and 3D models are being created
  - PhoDAR doesn't penetrate tree canopy and can't see what the stream is doing under the vegetation
  - Different modeling products include; Pix4D, AGI Soft

**LiDAR based NHD and WBD Delineation in Western Oregon** – Jay Stevens, BLM, [gstevens@blm.gov](mailto:gstevens@blm.gov)

- See presentation slides and recording below
  - 04/26 NHD Adv. Team meeting presentation ([PPT and recording](#)).
  - Presentations were very similar, although not exact.

**Other Business**

No other business presented.

**Next TWG is September 12, 2019!**