Examination of the observed occupancy points has shown that some of the locations do not spatially align with our stream network. Sample locations were found to fall into 4 classifications, involving 3 versions of flowlines.
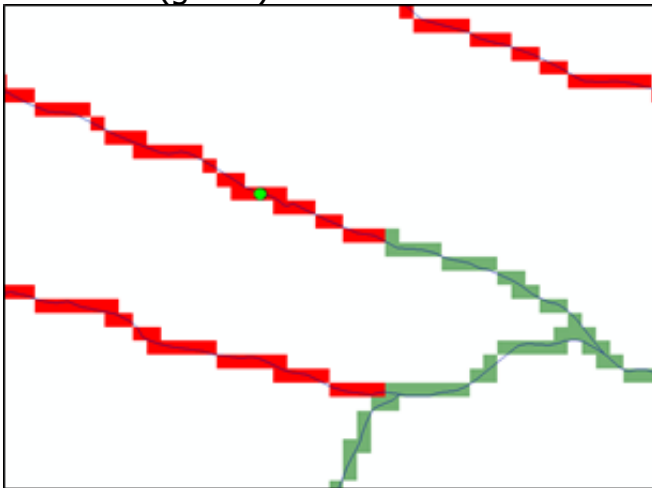
Flowlines

1. "detailed" - All inclusive high resolution flowlines
2. "truncated" - The high resolution flowlines trimmed to a 0.75 km2 drainage area threshold
3. "dem" - The flowlines generated by setting the 0.75 km2 threshold on the flow accumulation layer.
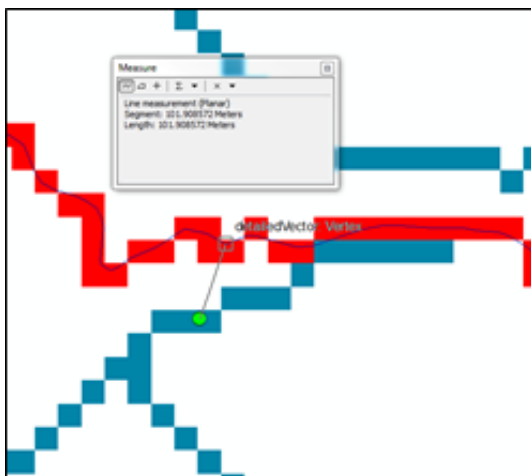
The "dem" flowlines are the threshold that is used to trim the "detailed" flowlines and create the "truncated" flowlines. This layer includes all cells that have 0.75 km2 drainage area or greater, not just those that fall within the high resolution network. For practical purposes these can be considered undocumented streams, meaning they are not included in the original NHD high resolution data but could still exist. These streams were considered because of case #2 below.
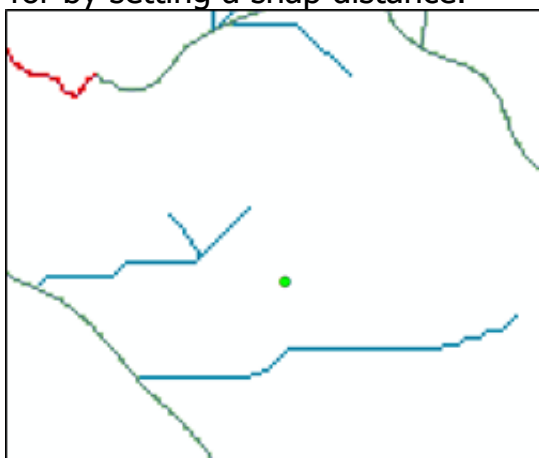
Location Classification

1. Detailed Network Only - The point is on the "detailed" network (red), but not on the "truncated" network (green).
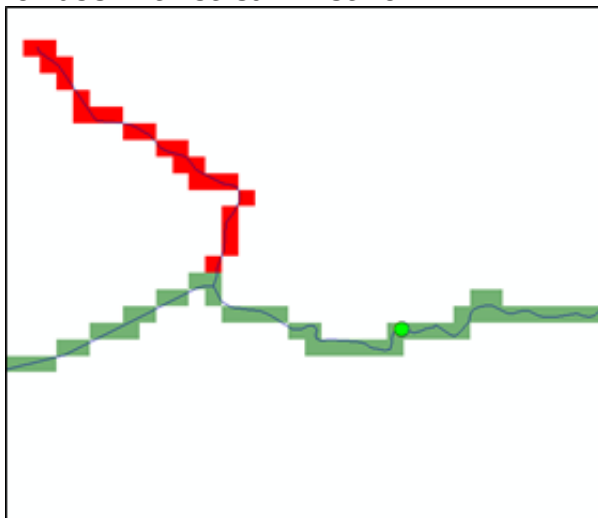

2. Undocumented Stream - The point is on a "dem" network (blue), but not located on the "detailed" network (red).

3. Outside 100 Meter Buffer - Points are not near any of the network versions. These are accounted for by setting a snap distance.

4. Truncated Network - The points are on all of the network versions. These points are the ones kept for use with stream network.

Breakdown of Cases

The current breakdown of where the sample locations fall in relation to the flowlines is listed in the table below. A 100 meter buffer around the flowlines was set as the

limit for snapping. Any points outside of this distance were left unsnapped. The sites in the "Truncated Network" classification are the ones we will be able to use in network analyses. The points used are the observed occupancy sites from December 2013. The whole process is scripted so it should be simple enough to update these sites as needed.

Location Classification	Number of Sites
Detailed Network Only	1291
Outside 100 Meter Buffer	1935
Truncated Network	33011
Undocumented Stream	529
Total Sites	36766

GIS Notes

- This work is contained in the C:\KPONEIL\streamNetwork\occupancy directory
- Processing of these layers is currently scripted out in the "mapOccupancySitesToNetwork.py" file
- Using the "Snap Pour Point" tool works, but will just snap to the raster anywhere within specified distance. This tool does not necessarily snap to the nearest point on the flowline

- Check overlap between "detailed" and "dem" flowlines. May need to do some trimming before

- Ensure spatial consistency of source layers, sepcifically rasters offset by a fraction of a cell

- Produces a raster of cells in "A" that don't overlap "B"
    - SetNull(~IsNull("B"), "A")