

Idaho Steward Review of the NHDPlus HR

Taken from National Hydrography Dataset Plus High Resolution (NHDPlus HR) Beta Quality Control (QC)
User Guide Update: August 6, 2018

Table of Contents

Overview of the Process

QC Process

Filled Area

Isolated Network

NHDPlusBurnLineEvent

QC Process

Each editor will be responsible for checking their project area for the following issues:

Filled Area QC

Isolated Network QC

NHDPlusBurnLine Event QC

Please limit your time to features that are clearly errors and areas that you have knowledge a knowledge of.

Please maintain a shapefile of your area of review to be provided to USGS or the Idaho State Steward upon request.

Edits can be made to the provided shapefiles or maintained in separate ESRI data formats that can be sent to USGS or the Idaho State Steward.

Edits can be submitted directly to the USGS through the Markup Reviewer. For details on the procedures for submitting NHDPlusHR edits through the Markup Reviewer, contact Kit Dwyer (kdwyer@contractor.usgs.gov) and Tatyana Dimascio (tdimascio@usgs.gov).

Overview of the Filled Area QC

Use the FilledAreas.shp

Look for filled areas where there should be drainage. Filled areas should be caused by sinks in the DEM that do not drain. Please review looking for areas that are indicated as filled that should not have been. For karst areas, unless you have field verification or other knowledge of how the water flows, make no edits.

Areas draining to sink features at the ends of isolated networks do not fill. All isolated networks will have a sink feature associate with the terminal flowline. If a false sink is found, please indicate that that feature should be deleted.

Review of FilledAreas should only focus on fill areas outside of large NHDWaterbodies and NHDAreas.

These filled areas should not be confused with the NHDPlusSink features; areas around NHDPlusSink features drain and thus do not fill.

Overview of the Isolated Network QC

Use the DisconnectedFeature.shp

Please review the DisconnectedFeature.shp and indicate where connections to the network should exist. Identify if there should or should not be a connection for each DisconnectedFeature feature. Please indicate how a feature should be updated, which features should be added, and which features should be deleted if the disconnected feature should not be presented in the NHD.

If a hydro connection exists, assume it is a Stream/River feature type, unless more detailed information is known.

Overview of the NHDPlusBurnLine Event QC

Use the FlowlinesBurnQC.shp

In some cases certain flowline features that should not be used in the hydro-conditioning and catchment generation processed will have been “burned” into the surface and have catchments generated for the feature. A high-level review should be performed to identify larger flowline features such as connectors and canal/ditch that appear to be incorrectly used in the hydro-conditioning of the surface and /or catchments generation.

Review the FlowlinesBurnQC.shp with the NHDFlowline feature and the NHDPlusCatchments.shp.

Spot check the FlowlinesBurnQC features to find larger NHDFlowline features. Identify the NHDFlowline features associated with FlowlinesBurnQC.shp features that should not be “burned”. The burned attribute will be set to “No”

Spot check the FlowlinesBurnQC features against the NHDPlusCatchments.shp features. Identify features that should not get a catchment. The catchment attribute will be set to “No”

- **Burning and Catchment for Canals:**

Underlying concepts that one should consider when reviewing “burn” and “catchment” attributes assigned to an NHDFlowline.

1) Setting “burn” and “catchment” attributes both to “No” means that the ditch is just transporting water and not interacting with the catchment. Example of this might be a lined feature that acts like an aqueduct just transporting the water or like an elevated canal.

2) Setting “burn” and “catchment” attributes both to “Yes” means that the feature acts like a stream and interacts with the catchment by receiving water from the catchment.

3) You may wish to set “burn” equals “No” and “catchment” equals “Yes” if the feature follows a contour and you only wish to capture drainage from the uphill side. Otherwise burning would force a larger area to be captured and contribute water to the feature.

4) Setting “burn” to “Yes” and “catchment” to “No” if resultant catchments would otherwise produce a pattern (with burn = yes and catchment = yes) that is just too busy to be practical (i.e. the canal/ditches are just so close together and so numerous that the information is confusing and of little value). This example would apply in a very dense pattern of ditches that lead to a stream segment. If you want a single catchment for that stream segment that includes the drainage from the ditches but lacks the dense catchment pattern of the ditches, then setting the ditches' burn = yes and catchment = no, is a reasonable thing to do.

If in this same situation you are not sure which way the ditches drain (i.e. to which stream), and you wish to have that be dependent upon the topography, then set burn = "No" catchment = "No".

To obtain a copy of the National Hydrography Dataset, visit <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/access-national-hydrography-products>

The NHDFlowline feature class is a feature class within the Hydrography dataset in the NHD geodatabase.

How Can I Access the NHDPlusHR

NHDPlus HR data is currently available in Beta version for selected hydrologic regions from the Linked Data > [Download Hydrography Products](#) page and [The National Map Download viewer](#).

Note that two download files are available for each area: a file geodatabase (GDB) of all vector datasets in compressed ZIP format, and a collection of raster files in 7-Zip compressed format. An NHDPlus HR User Guide for more information on what is contained in these download files is under development and will be available soon.

<https://www.usgs.gov/core-science-systems/ngp/national-hydrography/nhdplus-high-resolution>