



California GIS Council Workgroup Report

Workgroup: National Hydrography Dataset (NHD) Workgroup page*: http://cgia.org/cagiscouncil/workgroups/hydrography/ Workgroup Chair: Jane Schafer-Kramer (jane.schafer-kramer@water.ca.gov) NHD page on the CNRA Open Data site: https://data.cnra.ca.gov/dataset/national-hydrography-dataset-nhd Watershed Boundary Dataset (WBD) page on CNRA Open Data site: https://data.cnra.ca.gov/dataset/watershed-boundary-dataset-wbd NHD Stewardship Program page on the Department of Water Resources website: https://water.ca.gov/Programs/All-Programs/National-Hydrography-Dataset-Stewardship Watershed Boundary Dataset (WBD) page on CNRA Open Data site:	Report Date: March 11, 2021
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*See the workgroup page for workgroup charter, members, contact information, and prior reports.

Requests for Council Action

No formal action.

Status Update

Members of the NHD workgroup regularly interact as part of the ongoing work of the California Department of Water Resources (DWR) NHD Stewardship Program. (Stand-alone CA GIS Council NHD Workgroup meetings have not been held.) DWR's Program Manager for the past three years, Matt Correa has moved on to another position in DWR. Hiring to backfill this position will be announced soon (we hope!) in the Supervising Engineer, Water Resources classification.

Ongoing Work

Comprehensive updates on the NHD at the 1:24,000 scale continue. Under Interagency agreements with the Geographical Information Center at CSU-Chico and the Center for Geospatial Science and Technology at CSU-Northridge, HU 8 subbasins that were first edited by these centers five and six years ago are being updated using recent NAIP imagery and new reference data sources.

We are actively reviewing suggested corrections to the NHD received via the [USGS Markup Application](#) and coordinating the editing work needed to resolve the errors. Users of the NHD and the Watershed Boundary Dataset may report errors and omissions by way of this application or by contacting the steward at nhd_stewardship@water.ca.gov.

A collaborative effort to update the Marin County portion of the NHD to a scale of approximately 1:5,000 using LiDAR elevation data collected in 2018 and hydrography derived according to USGS standards is nearing completion. Lidar-derived hydrography delineation was performed by Quantum Spatial Inc, and the QC review was completed by the local subject matter experts at the County of Marin, the Golden Gate Parks Conservancy, State Parks, and a few others. Danny Franco of the Golden Gate Parks Conservancy is the project manager. Working closely with USGS staff, the geo-conflation of the new hydrography is being performed by Mike Plivelich, a contractor with extensive NHD experience. The extent of this work is the portions of two HU 8 subbasins that fall within Marin County's boundaries (18050005 Tomales-Drake Bays and 18050002 San Pablo Bay). The new data will be available for download in the next two months. The next phase of the work is to update the Watershed Boundaries at the HU12 level and to create new HU14 boundaries, this first in the California NHD.

Current Tasks



A new task is underway to bring all stream gage locations that collect flow data from the California Data Exchange Center (CDEC) <https://cdec.water.ca.gov/> into the NHD with supplemental join tables to allow users to link directly from the 1:24,000 scale NHD to the CDEC website for the latest flow data. The team is brainstorming to plan the tasks for the coming two years.

Planning for Future Work

USGS released standards for **Elevation-Derived Hydrography** (EDH) last year and is now partnering with the National States Geographic Information Council (NSGIC) to develop a community space for state stewards to share experiences and lessons learned as they develop their own EDH. A series of monthly webinars is underway, and through these we are learning about the importance of **good culvert data** (vector format) to represent the actual flow of water through our landscape. Some states have initiated coordination and collection of culvert data as a component of their statewide data infrastructure. We are interested in talking with potential stakeholders to launch this effort in California. Please contact Jane if interested.

The state steward is interested in learning more about the need among WBD users for **HU14 level drainages**, formerly known as Planning Watersheds in the Calwater dataset. We are gathering this information to develop a business case. If your organization has this need, [please fill out this brief survey](#).

Legislative/Policy Update

The Memorandum of Understanding that was submitted by DWR to USGS in 2017 was not accepted by USGS. DWR is in the process of re-drafting it.

Action	Key Date
Finalize MOU (awaiting action by USGS)	open
Continue NHD Update work	ongoing
Scope out future work	

Notes

USGS has informed us that in the second half of 2021, the U.S. Topo Maps for California will be refreshed. They will take a snapshot of the NHD on or about July 1 to incorporate in the updated topo maps.

The statewide extract of the NHD available for download by link at <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/access-national-hydrography-products> has not been refreshed since June 2020. USGS informed us recently that there's a problem with the extraction process and are designing a new system. In the meantime, DWR will download and merge the most recent data by HU8 (all 140 of them) and make this data available on <https://data.cnra.ca.gov/dataset/national-hydrography-dataset-nhd>.

Organizations are invited to participate in California's NHD Stewardship Program by contributing reference datasets (see Appendix below) and/or becoming NHD editors. Contact Jane at jane.schafer-kramer@water.ca.gov for additional information. Any other questions on NHD stewardship in California may also be directed to Jane.

DWR archives the California extracts of the NHD on the Natural Resources Agency Open Data site <https://data.cnra.ca.gov/dataset/nhd-archive> each time the dataset is refreshed on the USGS website, which normally happens two to four times each year. Also on the CNRA Open Data site are quick links to the various NHD websites and two derivative datasets: NHD Major Rivers, and NHD Major Rivers and Creeks. <https://data.cnra.ca.gov/dataset/nhd>. The



NHD-aligned Wild and Scenic Rivers – California Designations are available for download at <https://data.cnra.ca.gov/dataset/wild-and-scenic-rivers-california-state-designations-only-2020>.

Errors in the NHD may be brought to the attention of DWR and USGS using USGS' Markup Application: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/tools#Markup> or by contacting the steward directly: nhd_stewardship@water.ca.gov

Appendix

Accurate and vetted regional and local reference datasets are extremely useful in bringing comprehensive improvements to the NHD as they can provide additional detail that is not always accessible from readily available datasets and aerial imagery.

Hydrographic reference datasets (vector) with the following specifications are desired:

- Scale: 1:50,000 or finer
- Primary Composition/Features of Interest:
 - River/Streams
 - Lakes/Ponds/Reservoirs
 - Washes
 - Swamps/Marshes
 - Canals/Ditches
- Attribution Composition:
 - Seasonality/Periodicity of Rivers/Streams
 - Feature Types
- Currentness: Updated within last 5 years

Contact Information:

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