

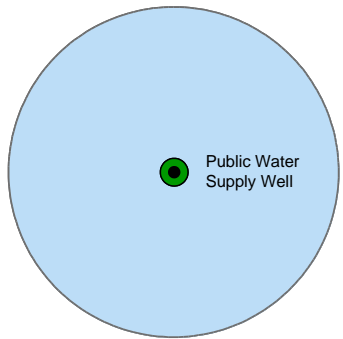
DWGB-12-11

2020

Drinking Water-Related Information Available Through NHDES' Geographic Information System

A geographic information system (GIS) is a powerful computerized mapping technology widely used by scientists, researchers, and resource managers to inform the management and protection of water resources. Over the last 30 years, state and local governments, as well as private entities, have made significant investments in developing information to use with this technology. These investments involve digitizing paper maps and developing computer databases, models and other analytical tools for improving resource management. Relational databases, incorporated into most GIS software, allow tabular information such as water quality data to be associated with discrete geographic features such as wells or monitoring locations on rivers or lakes. To better fulfill its responsibilities under the state and federal Safe Drinking Water Acts (SDWA), NHDES has developed certain GIS databases (referred to as "data layers") to support the sustainable management of public water systems and the aquifers, lakes and rivers that serve as sources of drinking water. Every day, scientists, analysts and local and state officials are making better-informed decisions that serve to protect drinking water resources by conserving sensitive water supply areas, managing contamination risks, and strategically investing in capital that improves the resiliency and quality of New Hampshire's drinking water resources.

The following is a summary of GIS data layers available from NHDES that may be used to better manage and protect local water supplies. Most of the data layers summarized below may be viewed and queried online to support environmental planning, permitting and other related activities. Access is available through NHDES' OneStop Web GIS after completing an online registration process.

<p>Public Water Supply Well Points, Surface Water Intakes and Facilities ("Public Water Supply Sources" in OneStop): Point locations for all public water supply wells, surface intakes, pump houses, and treatment facilities. For wells, the information includes attributes such as depth, population served, and yield (expressed in gallons per minute).</p>	<p>Public Water Supply Wells and Surface Water Intakes</p> 
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Public Water and Sewer Service Areas (not viewable in OneStop GIS): Areas served by public water and wastewater systems based on the approximate location of sewer and water distribution lines. The data were developed by selecting roads with water and sewer service and buffering them by 200 feet to estimate the service area. The linear data have been coded to indicate which service (sewer, water or both) is available. It is updated by NHDES annually with information provided by water and wastewater systems.

Estimated Water and Sewer Service Area

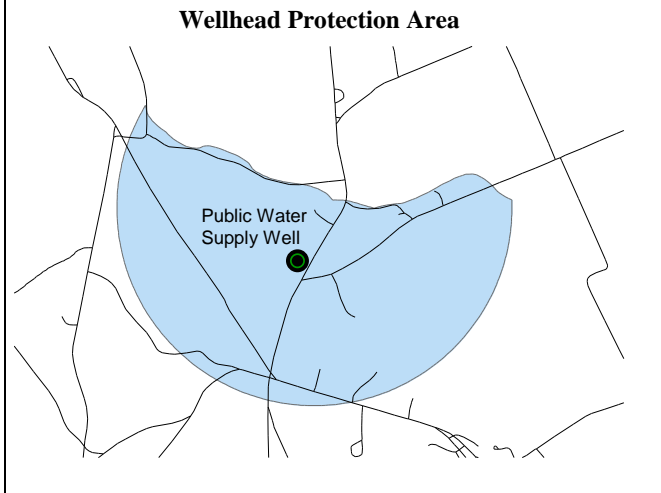


Drinking Water Source Protection Areas: Watershed areas contributing to lakes, reservoirs and streams that provide water to public water systems. Watershed boundaries are defined by the United States Geological Survey's (USGS) HUC-12 watershed boundaries, with minor adjustments made by NHDES.

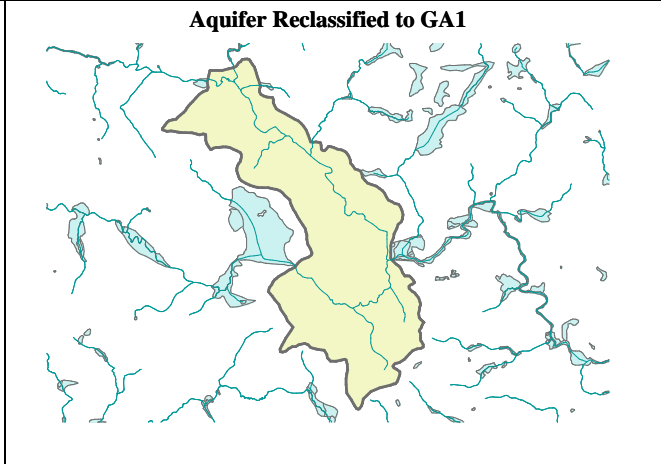
Drinking Water Source Protection Area



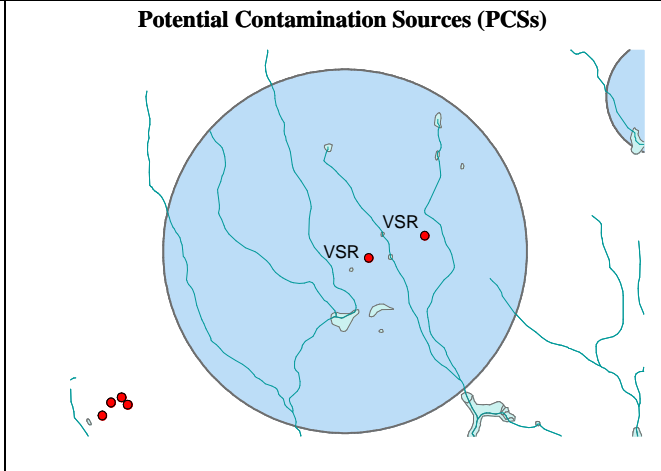
Wellhead Protection Areas (WHPAs): Estimated areas contributing water to public water supply wells. The WHPA for a bedrock well is usually a circle whose radius is a function of the amount of water permitted by NHDES to be pumped from the well. WHPAs for overburden wells (wells that are not drilled into bedrock) are typically based upon a hydrogeologic model and categorized by NHDES as “Phase I” or “Phase II” depending on the delineation methods. NHDES does *not* identify WHPAs for wells serving transient public water systems.



Groundwater Reclassification Areas: (“GAA and GA1 Groundwater Classification Areas” in OneStop GIS) Under state statute (RSA 485-C, Groundwater Protection Act) groundwater in New Hampshire is classified into four classes: GAA, GA1, GA2 and GB. Local entities (towns and water suppliers) may request reclassification of certain areas (such as WHPAs) to apply greater protection. NHDES maintains two GIS data layers representing GAA and GA1 reclassified areas containing information about the entity that initiated reclassification, including contact information. This data layer is typically updated when local entities request a boundary change or when new reclassifications are approved by NHDES.



Local Inventory of Potential Contamination Sources (PCSs): (“Local PCS inventory” in OneStop) Point locations of land use activities that involve significant quantities of substances that have the potential to contaminate groundwater if released. Each point includes information about the PCS which is assigned a “project type” code, such as “VSR” (vehicle service and repair). Updates are provided to NHDES by public water systems, organizations under contract with NHDES, and certain municipalities. New and updated PCS information received from outside sources is added to this data layer annually.



Benefits for Local Water Supply Management: Having quick access to the locations of public water supplies (wells, intakes) and the areas that contribute water to them can inform local land use policy, such as master plans or source water protection plans. This information is also useful for programs that aim to prevent contamination of current sources of drinking water and to preserve the availability of local aquifers, lakes and rivers to satisfy future water supply demands. Public water suppliers, municipalities and the regulated community currently use water supply data layers outlined above with other spatial data (e.g., conservation lands, etc.) for a number of local planning and regulatory activities, including:

- Identifying the existence and approximate locations of water supply wells, where local and state setback requirements may apply. The precise locations of wells would need to be verified in the field.
- Conducting local inspection programs to ensure compliance with state requirements for the use of best management practices to limit the risk of contamination in sensitive areas such as WHPAs and Drinking Water Source Protection Areas.
- Developing land use plans and policies that minimize impervious area, infiltrate clean stormwater, and limit pathways for contaminants to reach groundwater.
- Projecting future land use (build-out), population, and other economic trends to plan for future water resource needs.

Obtaining and Using Water Supply Information

Additional information about each GIS data layer, referred to as “metadata,” is available from NHDES upon request and provides additional details about the sources of the original information (e.g., maps), its accuracy, how it was digitized, database field names and codes, and other information necessary to fully understand the data and its limitations.

To obtain GIS data layers that may be useful for managing and protecting drinking water supplies, contact the Drinking Water Source Protection Program at (603) 271-0688. Access to security-sensitive data, including public water supply well points and surface water intakes and protection areas requires user registration through [NHDES’ One Stop](#). The University of New Hampshire’s GRANIT Program serves as the state’s central repository for GIS data, and maintains other key data layers such as land conservation, flood plains, and surface water. Federal agencies such as the United States Geological Survey and the Environmental Protection Agency, as well as state and local agencies other than NHDES also maintain and make available detailed GIS data useful to water supply planning, management and protection efforts.

For More Information

Please contact the Drinking Water and Groundwater Bureau at (603) 271-2513 or dwgbinfo@des.nh.gov or visit our website at www.des.nh.gov.

Note: This fact sheet is accurate as of September 2019. Statutory or regulatory changes or the availability of additional information after this date may render this information inaccurate or incomplete.