
ENVIRONMENTAL Fact Sheet



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The New Hampshire Water Well Inventory

The New Hampshire water well inventory was initiated in 1984 in conjunction with the passage of state statute RSA 482-B, which requires the licensing of water well contractors and submission of well completion reports. At the same time a program of detailed investigation of glacial sands and gravels (stratified-drift aquifers) was started. The development of a statewide natural resources database with geographic references, computerized storage and retrieval was also being conceived. Since then these three programs have grown from the conceptual stage to the point where data are collected, stored, transmitted and utilized by a variety of groups for mutually beneficial purposes. The well inventory has become a vital source of reliable basic data for many investigations of our state's water resources and geology.

Purpose

The primary purpose of the well inventory is to increase the state's knowledge of its water resources. Since some 90% of all rural residents obtain their water from bedrock wells, there is a need to know the suitability of the bedrock aquifer to meet that demand. Residential users continue to increase water demands for modern household use, pools, irrigation and livestock. New Hampshire industries and larger population centers seek water from higher capacity wells drilled into either stratified drift or bedrock.

The current aquifer mapping program is evaluating the characteristics and capabilities of stratified-drift aquifers. The well inventory provides tremendous amounts of data to assist in this process and thereby facilitates more reliable evaluations of the sand and gravel aquifers.

In areas that do not have stratified drift, water suppliers must rely on the bedrock. The initial phase of a new statewide comprehensive bedrock aquifer mapping effort was approved by the New Hampshire Legislature. This new program will complement the stratified-drift aquifer mapping program and will provide information on the potential yield and water quality of bedrock aquifers throughout the state. The well inventory identifies high yielding wells and indicates not only individual fractures but fracture trends and zones. At the same time, unfavorable hydrogeologic settings, areas of resistant and relatively unfractured bedrock where drilled wells are very costly and unproductive, are being identified.

The well drilling industry and consumers benefit from the identification of problem drilling areas. This identification affords the opportunity to better estimate the cost and productivity of wells in a given area. Additional benefits are realized by those engaged in the hydrologic, geologic and engineering

consulting business. Bureaus within the New Hampshire Department of Environmental Services involved with site evaluations for water supply development and/or groundwater quality assessment and protection also find this data useful.

Geologic mappers find the New Hampshire well inventory data useful in mapping the depth of overburden (soil lying on the bedrock). Drillers reporting detail about the bedrock provides data helpful in creating accurate bedrock maps.

Approach

From the beginning, the well inventory has been conceived in a manner that provides quick and easy access to thousands of records upon request. The recognized pitfalls of longstanding programs in other states have been avoided through full utilization of computers in several capacities to achieve data retrieval commensurate with the information age. Reliability of the data is a primary concern that has necessitated an uninterrupted data collection and a thorough data checking process and field verification.

Progress

NHDES collects thousands of well reports per year. Currently, the database contains more than 120,000 records. Statewide GPS technology was implemented in the location of wells in 1995. Through intensive field work NHDES has accurately located and determined coordinate values for approximately one third of these wells. Well records are transferred both to the state's GRANIT database and the federal GWSI database to assist others in their water resources investigations.

Our staff has received support and invaluable assistance from local communities and local government employees throughout the state including town clerks, administrative assistants, local health and building code enforcement officials, and selectmen. Their efforts have contributed greatly to the quality and success of the program.

Public Access to Data

Water well data are available on the NHDES OneStop website. Water well data are also available in several other formats upon request. The cost of a standard hard copy report containing summarized data from up to 100 well records is \$10. An additional 10¢ is charged for each additional record requested. Data are also available in a digital file format. Requests for summarized data, copies of reports, questions or other information should be directed to the New Hampshire Geological Survey, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095; (603) 271-1976 or geology@des.nh.gov.