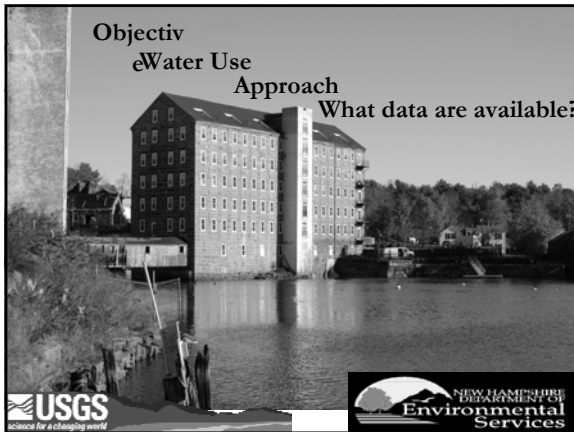




<http://nh.water.usgs.gov/projects/nhvtwateruse/>

New Hampshire Water Demand Project Water-use data Web Site

Laura Hayes and Marilee A. Horn
U.S. Geological Survey
NH/VT Water Science Center
May 10, 2011








USGS Home
Contact USGS
Search USGS

New Hampshire and Vermont Water Use Estimates for 2005

Home
Background
NH Project
NH Data
VT Project
VT Data
Links

Statewide Withdrawal and Return Flow Estimates for 2005

Studies were conducted by the U.S. Geological Survey New Hampshire-Vermont Water Science Center with the New Hampshire Department of Environmental Services and the Vermont Geological Survey to estimate the 2005 and project the 2020 water use for each state. The first objective of these studies was to understand current water withdrawal and return flow quantities in order for the respective state agencies to compare those values with groundwater and surface-water availability. The second objective was to project future withdrawals and return flows in order for the state agencies to evaluate areas where water shortages may occur or where future demand may require new withdrawal sources. A map of the basic hydrography of the study area is shown here.



click for full-size map

The studies incorporated procedures developed for estimating water use by the USGS as part of a detailed water-use analysis for the Seacoast region of New Hampshire (Ellison and others, 2008). The studies were based on Census 2000 data and other data from the respective states. The estimates were done by census block, the smallest geographic unit of the census, so that the information could be aggregated up by watersheds or other geographic/political units. Project summaries, published reports, and 2005 water use data aggregated by town, county and watershed are provided on this web site. (2020 data will be provided in the future).

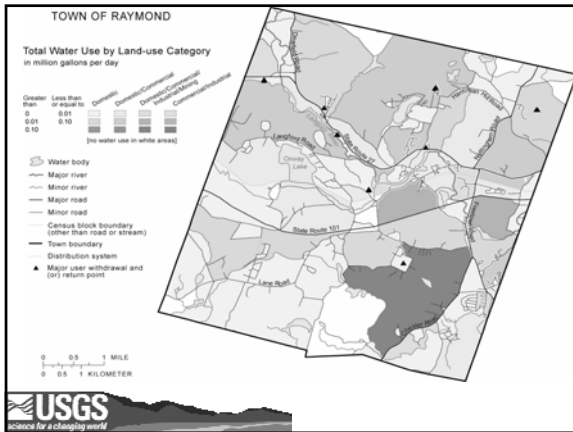
The value of water-use data
Water-use information can be used by town and county officials, planners, water supply managers, and citizens to help them understand:

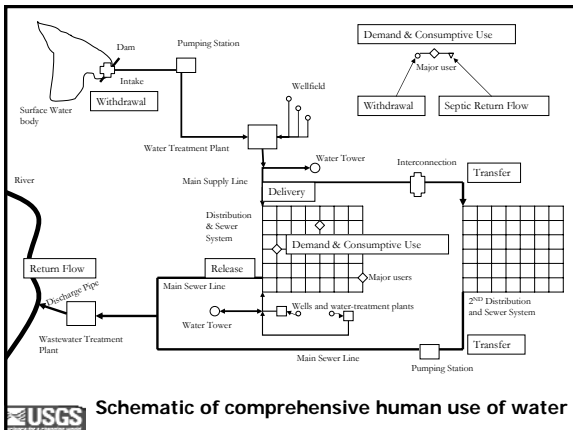
- How water was used in a given year
- Distribution of population on household wells
- Distribution of population using on-site disposal systems
- Water withdrawal estimates by watershed

New Hampshire Objective

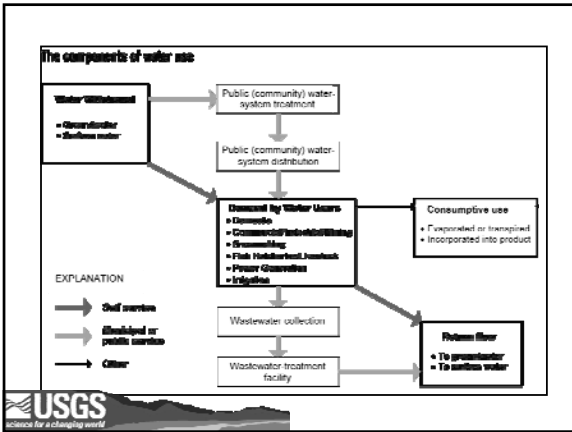
- Estimate unregistered withdrawal and return flow for 2005 by census block
- Project total water withdrawal and return flow for 2020
- Used by NHGS with hydrologic information to identify small basins that may become stressed







Schematic of comprehensive human use of water

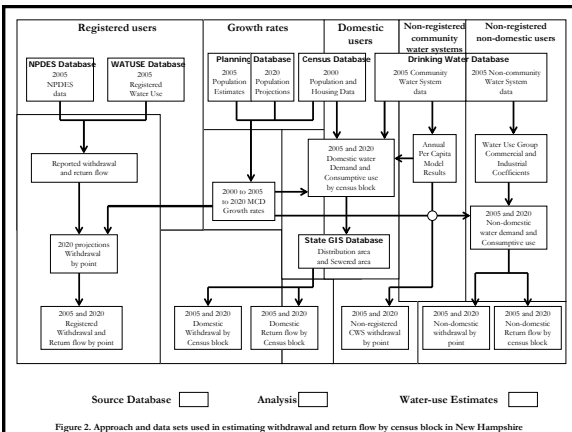


Approach

- Who uses water?
- Where does the water come from and what happens to the wastewater?
- How much water is used?

USGS
 science for a changing world

NEW HAMPSHIRE
 DEPARTMENT OF
 Environmental
 Services



Household water use

- Estimate self-supplied pop as difference between total census block pop and pop served by CWS
- Pop served by CWS is determined by
 - overlay of Census Blocks and Statewide CWS service areas
 - CB borders that are roads equated with pipe lines to classify % of pop served by CWS
 - CWS on interior roads added
- Multiply self-supplied pop by 75 gal/d



Prepared in cooperation with the
New Hampshire Department of Environmental Services

Methods for Estimating Withdrawal and Return Flow by Census Block for 2005 and 2020 for New Hampshire

by Laura Hayes and Marilee A. Horn

Open-File Report 2009-1168

U.S. Department of the Interior
U.S. Geological Survey

Methods for Estimating Withdrawal and Return Flow by Census Block for 2005 and 2020 for New Hampshire

by Laura Hayes and Marilee A. Horn

Open-File Report 2009-1168

<http://pubs.usgs.gov/of/2009/1168/>

Withdrawal data

- Population
 - On wells
 - On Community Water Systems
- Total Withdrawal
 - Groundwater
 - Surface Water
- Domestic – GW only
- Community Water Systems
 - Commercial
 - Snow Making
 - Industrial
 - Irrigation
 - Mining
 - Fish Hatchery
 - Thermoelectric
 - Hydroelectric



Thank you!

Laura Hayes Marilee A. Horn
U.S. Geological Survey
NH/VT Water Science Center
331 Commerce Way
Pembroke, NH 03275-3718
lhayes@usgs.gov mhorn@usgs.gov
603-226-7835 603-226-7806