

Toward a Water Resources Plan for New Hampshire

New Hampshire's economic well-being, public health, and quality of life depend on the sustainable management of water resources. Whether it is needed for drinking, manufacturing, recreation, waste assimilation, or ecosystem health, water is a cornerstone of New Hampshire's beauty and prosperity. But the state faces a number of significant challenges as it plans ahead for the sustainable management of water resources. These challenges, and much more information

about the state's water resources and the issues facing New Hampshire, are presented in a new **Water Resources Primer**. The N.H. Water Resources Primer is the first document that covers all of the water related topics of importance to policy makers in New Hampshire. It was developed by the Department of Environmental Services with the assistance of stakeholders and at the request of the Legislature's statutory Water Resources Committee. It is an initial step

towards developing a Water Resources Plan for the state. Other recently completed water planning initiatives to support the Water Resources Plan process include a statewide survey on water issues, estimates of current and future water demand, and identification of areas where the current or future demand for water may be limited by supply.

Public Information Workshops

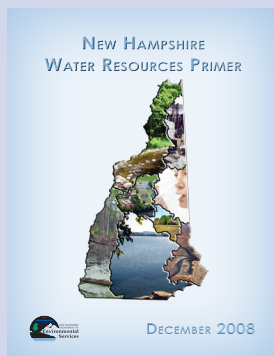
DES is following up the publication of the primer and the water resources survey report with a series of public information meetings/listening sessions in cooperation with stakeholders. An important purpose of these meetings is to gather citizens' input into a report for the Water Resources Committee. For meeting dates and locations, please visit www.des.nh.gov, navigate to the A to Z List, and select "Water Resources Plan." For possible weather-related cancellations, please call (603) 271-7061.

Find the Primer and Survey On-line

- Go to the DES website: www.des.nh.gov
- Click on A to Z List
- Select "Water Resources Plan"
- Scroll to "Publications" to find both the Primer and the Survey

Water Resources Primer

DES has developed a Water Resources Primer to inform policy makers and residents about the state's water resources and the challenges of sustainably managing them. The primer's lead author is DES, but the document was significantly influenced and improved by the contributions of many stakeholders and experts. See the reverse side of this page for an overview of the Water Resources Primer.



Survey

In 2008, DES contracted with Weston and Sampson Engineers, Inc. and the University of New Hampshire Survey Center to conduct a survey to support the State Water Resources Plan process. The specific areas of interest are concerns about water resources and related opinions among state and local decision-makers. More than one thousand five hundred questionnaires were mailed or emailed to all New Hampshire legislators, Executive Council members, members of local governing bodies (Select Boards, Boards of Aldermen, City Councils), town planners, and the chairs of town Planning Boards and Conservation Commissions.

Water Demand vs. Availability Analysis

To support the Water Plan process, the NH Geological Survey (NHGS) prepared an assessment of hydrologic stress posed by water withdrawals in each of the state's watersheds. As a measure of hydrologic stress, NHGS divided net water withdrawals (total withdrawals minus total returns) by estimated natural streamflow for each stream reach. The analysis relied on withdrawal data reported to NHGS by water users and detailed current and future water use estimates developed by the US Geological Survey (USGS). Streamflow estimates were derived using regression equations developed by USGS and DES. NHGS then analyzed the data for all watersheds to identify the most stressed drainage areas. The data and the analysis tools developed for this project are designed to be flexible and of lasting use and value to land and water resource managers.

Overview of the N.H. Water Resources Primer

The water running through, over and by New Hampshire has shaped the state's history and will influence its future. Over the last decade New Hampshire has been the fastest growing New England state, and there are another 260,000 new residents anticipated between 2005 and 2030. Hundreds of thousands of visitors come to New Hampshire each year to enjoy the state's beautiful lakes, rivers and coast in the summer and its ski areas, snowmobile trails and ice-fishing spots in the winter. Whether it is needed for drinking, manufacturing, recreating, waste assimilation or ecosystem health, water is a cornerstone of New Hampshire's beauty and prosperity, and wise management and protection of water resources is critical to New Hampshire's economy, public health and environment.

This is the first document that contains all of the water related topics of importance to New Hampshire policy makers. It is meant to provide the reader with an understanding of the complex and interrelated nature of water resources and water resource issues. It is also formatted to provide topic specific chapters that can be used to understand particular subjects.

The Water Resources Primer identifies four primary challenges to sustainable water resource management in New Hampshire. These are:

1. Landscape Change and Increased Demand for Water Related to Population and Economic Growth.
2. Climate Change: Increasing temperature, more frequent and intense storms, etc.

3. Aging and Inadequate Water Infrastructure: Wastewater, drinking water, stormwater and dams.
4. Information Needs: Water quantity and quality data collection, analysis and management.

The first chapter provides, in the section called "New Hampshire Water at a Glance," pertinent facts and statistics about the state's water resources, water use, water infrastructure and water law. The remaining chapters are topic specific and include: Rivers; Lakes and Ponds; Groundwater; Wetlands; Coastal and Estuarine Waters; Water Use and Conservation; Drinking Water; Wastewater; Stormwater; Dams; and Floods and Droughts. Each of these chapters provides information about the topic, related issues and current management efforts. Each of these chapters also provides a few key stakeholder recommendations. Most, but not all, of those recommendations can be grouped into the following areas:

- Improve knowledge – data characterization and evaluation
- Increase water use efficiency
- Improve land use patterns – directing development
- Improve stormwater management
- Adapt to climate change
- Address infrastructure needs
- Improve integration of protection programs
- Shift towards watershed/regional vs. municipal planning and regulation
- Increase emergency preparedness

New Hampshire is fortunate to have an abundance of high quality water resources. With nearly 17,000 miles of rivers and streams, 1,000 lakes and large ponds, 238 miles of ocean and estuarine coastline, and potable groundwater throughout the state, there is great connectivity between New Hampshire's surface and groundwater. Both water quality and quantity are influenced by what occurs on the landscape.

Making sound policy decisions regarding water resources and ensuring that there is enough good quality water for the many users that depend on this resource are not small tasks. They are, however, essential to sustaining New Hampshire's special quality of life. The Water Resources Primer has been developed and is intended to support this worthy goal.

Primer Chapters

1. Introduction and Overview
2. Rivers and Streams
3. Lakes and Ponds
4. Groundwater
5. Wetlands
6. Coastal and Estuarine Waters
7. Water Use and Conservation
8. Drinking Water
9. Wastewater
10. Stormwater
11. Dams
12. Floods and Droughts