

WATER USE

*Addressed by 4 management objectives, 9 action plans*

“SIMULATED EFFECTS ON THE SEACOAST HYDROLOGIC SYSTEM FROM PROJECTED INCREASED FUTURE WATER USE INCLUDE DECLINING BASE FLOWS; DECLINING FRESH GROUND-WATER DISCHARGES TO TIDAL BAYS, ESTUARIES AND THE OCEAN; AND LOWERED GROUNDWATER LEVELS.”

USGS ASSESSMENT OF GROUND-WATER RESOURCES IN THE SEACOAST REGION OF NEW HAMPSHIRE, 2008

Water resources are under increasing pressure from population growth, increased water use per capita, and changes in temperature and rainfall patterns due to climate change. Water use is also no longer viewed only from a human consumption standpoint. Flows needed to sustain aquatic environments are now considered in evaluating and regulating instream flows and withdrawal limits.

Both New Hampshire and Maine have recently evaluated water resource pressures by estimating water use and water requirements by watershed. In 2008, the US Geological Survey (USGS) released a technical report estimating current water use in New Hampshire seacoast region and predicting water use increases through 2025. The report estimates that from 2010 to 2025, domestic water demand will increase 54% and non-domestic water demand will increase 62%.

The New Hampshire Stressed Basins Project, conducted by the NH Geological Survey (NHGS), developed a water balance index that evaluated total withdrawal to summer streamflow. The Maine Geological Survey completed a similar program called Watersheds at Risk. This program highlights the areas most vulnerable to declining stream baseflows due to surface water and groundwater resource demands.

In order to assess water resource needs, accurate hydrologic baseline information is required. Some water level and streamflow data are regularly collected but a larger network would allow for more accurate predictions and a stronger scientific basis for regulations. Data collection can be cooperatively funded and collected by federal, state and local entities in order to make the best use of limited resources.

Water resource management plans are being developed for designed river reaches under the NH Rivers Management and Protection Program (RMPP). The Lamprey River Management Plan was updated in 2007, the Isinglass River Management Plan was developed in 2008 and the Exeter River Corridor and Watershed Management Plan was developed in 1999. A Protected Instream Flow Study was conducted for the designated portion of the Lamprey River in 2009. Similar

plans also are encouraged for source water protection through the NHDES Drinking Water and Groundwater Program. At present, no water management plans are being developed in Maine communities within the Great Bay Estuary watershed.

New nominations continue. The Lamprey River Nominating Committee has submitted a nomination for the undesignated portion of the upper and tidal portions of the Lamprey River as well as the North Branch River, Pawtuckaway River, North River, Little River and Piscassic River. The Exeter River Local Advisory Committee has submitted a nomination for the undesignated portion of the Exeter River and the Squamscott River. Lastly, the Oyster River Watershed Association has submitted a nomination for the Oyster River. If successful, these rivers would be designated into the RMPP in the summer of 2011. Once enrolled, management plans would be developed for these rivers as well.

A pilot “Consumptive Water Use Capacity Plan” is being developed by NHDES that jointly assesses surface and groundwater use and sustainability. Coordination of these efforts going forward will protect water resources and maximize resources for protection efforts.

Stratified drift aquifers are localized sand and gravel deposits that currently provide drinking water, or may serve as future supplies. These aquifers also provide valuable recharge and discharge areas for underlying bedrock groundwater and streams and rivers that cross these deposits. Aquifers often extend beyond town boundaries and can supply multiple towns with water. Protecting these water supplies by applying consistent land use regulations and retaining forested land cover can help protect water quality and the drinking water resource these aquifers provide.

Addressing water use involves a broad range of activities that include:

- Protecting instream flows
- Promoting sustainable land-use practices
- Pursuing source water protection