

2.200 Water Resources Policies and Implementation Strategies

2.200.01 Introduction

The Regional Master Plan Water Resources section includes Policies and Implementation Strategies related to water resource protection and non-point source water pollution prevention. The policy goals, principles and standards and implementation strategies listed below are to be used by Planning Boards, Conservation Commissions, Water Boards, developers, and the general public along with the SRPC to make better decisions dealing with water resources. It is anticipated all policies, implementation strategies, etc. may not be applicable to all communities. Each municipality will need to review these and adapt them to local conditions, within the context of achieving the policy goals. Municipalities should take the initiative and contact the SRPC or any other interested party and begin the process. Further, certain implementation strategies will be tailored and made more specific according to local needs.

Authority/Role

1. The Regional Master Plan Water Resources section includes policies and strategies related to water resource protection. Controlling non-point source pollution (NPSP) is critical for protecting water resources in every municipality in the region. Strategies that reduce non-point source pollution have many other environmental benefits for a municipality, including preserving natural species of fish and other wildlife, and protecting open land.
2. Per RSA 36:47, II, *“For the purpose of assisting municipalities in complying with the preparation of a local Master Plan implementation section, which is a long range action program of specific actions, time frames, allocation of responsibility for actions, description of land development regulations to be adopted, and procedures which the municipality may use to monitor and measure the effectiveness of each section of the plan”* (See RSA 674:2,III (m)), the Strafford Regional Planning Commission *“shall compile a local water resource management and protection plan, hereafter referred to as the local water plan. Once the local water plan has been adopted, it shall be placed on file with the office in accordance with RSA 675:9. The plan shall be made available to the public upon reasonable request and payment for any costs incurred in the duplication of the report”* (See RSA 4-C: 22,I).
3. Further, *“Municipalities are hereby authorized and encouraged to enter into agreements with other municipalities for the purpose of developing and implementing regional water plans and ordinances to enhance the effectiveness of their local water plans where water protection needs to extend beyond municipal boundaries. Appropriate action of the municipalities by ordinance, resolution or other action shall be necessary before any such agreement may enter into force, and the agreement shall be adopted pursuant to RSA 53-A. Municipalities are encouraged to seek the assistance of their regional planning commission in the*

development and implementation of their regional water plan, and shall coordinate these plans with the regional water resource planning efforts of their commission” (See RSA 4-C: 23).

2.200.02 Policy Goals

1. Protect the quantity and quality of water resources and balance their use consistent with conservation and development needs:
 - a. In cooperation with local municipalities and the private sector.
 - b. Consistent with other regional and local Master Plan policies and implementation strategies.
 - c. In balance with the protection of environmental resources, the maintenance of community well being, and the ability of municipalities to provide and finance community facilities and on-going services.
2. Protect water resources from contamination and depletion by managing and controlling sources and volumes of non-point source pollution.

2.200.03 Policy Principles

1. Water resources will be protected for the health, safety and welfare of all water users.
2. Growth will not compromise (degrade) environmental quality.
3. Water resource protection conservation and management will use Best Management Practices.
4. Water resource operations will be consistent with sustainable, energy efficient practices.
5. Municipal land use ordinances and regulations will ensure water resource protection.
6. Municipalities will have code enforcement personnel to enforce zoning ordinance and subdivision regulation issues and administer permit applications and inspect and monitor construction to meet standards.
7. Municipalities will be encouraged to participate in inter-municipal water resources management efforts.

8. Municipalities will be encouraged to view development in light of a municipality's role as a watershed steward, for water and land resources.
9. Land overlaying aquifers and land adjacent to surface waters will be conserved or protected.
10. Shoreland (riparian) buffers that filter pollutants before water discharges into lakes, streams, and wetlands will be preserved.
11. The implementation or continuation of water quality monitoring programs for lakes, streams and wetlands will be encouraged.
12. Proper erosion control measures and Best Management Practices (BMPs) for stormwater will be in place when land use alterations occur within the watershed boundary.
13. An intact forest canopy and understory will be maintained on steep, highly erodible, slopes.

2.200.04 Policy Standards

1. Water runoff quantity and quality from new development shall not exceed pre-development water quantity and quality runoff, based on all storm events (i.e. every 2, 5, 10 years).
2. All new use of existing water resources shall comply with the applicable standards as well as state public health safety and septic system regulations and requirements.
3. Sources for other standards include:
 - a. Best Management Practices to Control Nonpoint Source Pollution as referenced in: A Guide for Citizens and Town Officials. January 2004. NH DES. http://www.des.nh.gov/wmb/was/2004_npsBMP.pdf
 - b. Following the Flow: NPS Assessment. Natural Resource Conservation Service and University of New Hampshire Cooperative Extension. <http://www.nh.nrcs.usda.gov/> and <http://ceinfo.unh.edu/>
 - c. How Greenways Work: A Handbook on Ecology. 1992 2nd Edition. Ipswich MA: National Park Service and Atlantic Center for the Environment. <http://www.americantrails.org/resources/greenways/NPSintroGrnwy.html>
 - d. Saving Special Places: Community Funding for Land Conservation. December 2002. Society for the Protection of New Hampshire Forests. <http://www.spnhf.org/explor/library/Research/savingplaces.pdf>
 - e. Open Space for New Hampshire: A Toolbook of Techniques for the New Millennium. 2000. New Hampshire Wildlife Trust.

- f. New Hampshire's Changing Landscape. 1999. Society for the Protection of New Hampshire Forests and the NH Chapter of the Nature Conservancy. <http://www.spnhf.org/explor/library.html>
- g. New Hampshire Everlasting: An Initiative to Conserve Our Quality-of-Life. September 22, 2001. Society for the Protection of New Hampshire Forests. <http://www.spnhf.org/explor/library/Research/nheverlasting.pdf>
- h. See existing Zoning Ordinance and Subdivision Regulations.
- i. Buffers for Wetlands and Surface Waters: A Guidebook for New Hampshire Municipalities. 1997 (Revised Edition). Audubon Society of New Hampshire. <http://www.nhaudubon.org/>
- j. Identification and Documentation of Vernal Pools in New Hampshire. 1997. New Hampshire Fish and Game Department Non-game and Endangered Wildlife Program. http://www.wildlife.state.nh.us/Wildlife/nongame_and_endangered_wildlife.htm
- k. A Guide to Developing and Re-Developing Shoreland Property in New Hampshire. Third Edition, 1999. North Country and Southern NH Resource Conservation and Development Area Councils. <http://homepage.fcgnetworks.net/ncrcd/>
- l. Municipal Guide to Wetland Protection. September 1993. State of New Hampshire.

2.200.05 Implementation Strategies

To implement the policies, the following implementation strategies are initiated in cooperation with local municipalities:

Master Plan and Consistency

1. Monitor and update regional and local Master Plan Water Resource: Non Point Source Pollution policies and implementation strategies to ensure they define regional and local water resource policy goals, principles, standards, and implementation strategies for:
 - a. A minimum of the next five years.
 - b. Water resource pollution prevention measures, both new and revised.
 - c. Water resources that have a need for "special" protection.
2. Amend, as appropriate, the Regional Master Plan implementation program that describes actions over the next five years to meet water resource non point source pollution prevention goals.
3. In cooperation with the SRPC maintain and update the various data components of the local Master Plan Water Resources section per RSA 4-C: 22 as follows:
 - a. Inventory of water resources by category, geographic location, use and condition.

- b. Projection of water resource quality, so that appropriate steps can be taken to prevent the degradation of water quality.
- c. Analysis of non-point source pollutants including but not limited to: sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks; oil, grease, and toxic chemicals from runoff and energy production; excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas; bacteria and nutrients from livestock and pet wastes; faulty septic systems; atmospheric deposition; and hydro modification.
- d. Analysis of the existing and probable future water resource characteristics and opportunities within the municipality to prevent non-point source pollution.
- e. Analysis of the existing and planned infrastructure capacity, including but not limited to sewage and water treatment, sewer and water lines, roads, and school capacity to assess local government's present and prospective water needs and its capacity to accommodate those needs.
- f. Identification of water resources within the local government where runoff is most likely to occur, such as areas containing steep slopes and impervious surfaces.
- g. Analysis of the capabilities, constraints, and degree of progress made by the public and private sectors in meeting land needs.
- h. Identification and comprehensive assessment of state and local regulatory barriers to protecting water resources, including development policies, zoning, subdivision, and related codes and their administration.

General

1. Take reasonable and prudent precautions to protect all water resources from incompatible land uses, thus protecting the health and general welfare of the community.
2. Amend development standards and take other actions, including the adoption of incentives, to promote energy efficient practices and the use of sustainable and/or recyclable materials.
3. Assess water supplies in Planning Area and Ensure sufficient water supplies exist for public use based upon future growth projections and for availability to native wildlife and plant communities.
4. Use best management practices, such as systems for infiltration, detention, retention, constructed wetlands, filtration, and vegetation, and careful monitoring of activities, and restoration for land uses within watersheds to prevent pollutants from entering water sources.

5. Support developing an effective and enforceable system to monitor non-point source pollution over time.
6. Identify and map districts for Shoreland Protection and Wetlands Protection in order to use existing overlay protection districts: wetlands, prime wetlands, shoreland protection, and aquifer protection to identify areas requiring special attention from developers.
7. Adopt in municipal regulations, State standards for stormwater management and require a stormwater management plan for each subdivision and site design.
8. Coordinate water resources database management with State and Strafford Regional Planning Commission boards to further the protection and management of the water resources of the region.

Zoning/Other Ordinances – See Land Use: Implementation Strategies

Development – Also See Land Use: Implementation Strategies

1. Reduce the cost of stormwater management by concentrating runoff in one area and reducing runoff volumes.
2. Integrate erosion and sediment controls into watershed, wetlands, lakes, streams, and river protection overlay zones.
3. Use perimeter controls to retain or filter runoff such as earthen dikes and silt fences.
4. Apply catch or trap basins to capture suspended sediments during large storms.

Conservation Design – See Land Use: Implementation Strategies

Wetlands – See Land Use: Implementation Strategies

Aquifers/Wells/Groundwater – Also See Land Use Implementation Strategies

1. Initiate studies to conclusively confirm or deny the existence of potential aquifers, identify sustainable yield rates from known aquifers, examine the potential for artificial recharge of groundwater, and establish a system of monitoring groundwater resources.

2. Pursue follow-up testing of wells to determine the current state of the region's groundwater resources.
3. Study the region's per capita water use and groundwater recharge and estimate the effect that future population growth in region would have on groundwater supplies and understand the region's water resource needs vs. availability in the future.
4. Identify alternatives to monitoring groundwater to detect potential contamination.

Road Salting

1. Study the impacts of road salting on the region's ground and surface water supplies.
2. For lesser-traveled roads, apply salt in a 4-8 foot strip along the centerline of a two-lane road.
3. Disposed or stockpiled snow should be stored on pervious surfaces at least 25 feet from the high water mark and/or edge of the bank of surface water.
4. Snow storage area should be at least 75 feet from private wells, 200 feet from community wells, and 400 feet from municipal wells.
5. Store de-icing compounds on sheltered, impervious surfaces and locate salt piles at least 100 feet from streams and flood plains.

Landfills

1. Devise a system whereby the SRPC receives regular updates on the status of landfill contamination plumes and their effects on the water quality of the nearby surface and groundwater.

Collaborative Efforts and Educational Outreach

1. Facilitate communication, education and cooperation amongst consumers, water providers (utilities), and other applicable organizations to link all parties of interest in water resources.
2. Support the efforts of watershed associations, regional planning commission, and municipalities to coordinate water protection and management within the watersheds. Incorporate policies, regulations and other actions from watershed management plans through the Planning Board, Conservation Commission, and Water District.

3. Educate municipal officials on the importance of controlling non-point source pollution.
4. Educate property owners to keep parking and outdoor storage areas free of debris.
5. Work with the Conservation Commission to notify citizens of potential volunteer water quality monitoring activities that exist and that would facilitate the monitoring of surface waters.

2.200.06 Definitions

1. **Aquifer:** One or more strata of rock or sediment that is saturated and sufficiently permeable to yield economically significant quantities of water to wells or springs. An aquifer includes any geologic material that is currently used or could be used as a source of water (for drinking or other purposes) within the target distance limit. Note, this definition differs from many common definitions because it is based on the current or potential future use of the geologic material for drinking water or other purposes.
2. **Best Management Practices (BMPs):** For purposes of stormwater management, structural, nonstructural, and managerial techniques that are recognized to be the most effective and practical means to prevent or reduce nonpoint source pollutants from entering receiving waters.
3. **Contaminants:** Substances that become entrained in stormwater and degrade water quality. Sources include process waste, raw materials, toxic pollutants, hazardous substances, septic outflow, or oil and grease.
4. **Discharge:** Water or effluent released to a receiving water body.
5. **Drainage Area:** Land area from which water flows into a stream or lake.
6. **Erosion:** Weathering of soil by running water, wind, or ice.
7. **Floodplain:** The portion of a river valley next to the river channel that is or has been periodically covered with water during flooding.
8. **Groundwater:** Water that occupies the pores and crevices of rock or soil.
9. **Impervious:** The property of a material that does not allow the infiltration of water into and through the pores of the soil, such as pavement or rooftops.
10. **Landfill:** An engineered (by excavation or construction) or natural hole in the ground into which wastes have been disposed of by backfilling or contemporaneous deposition of soil and wastes.
11. **Infiltration:** The gradual movement of water (from precipitation, irrigation, or runoff) into the soil.
12. **Nonpoint Source (NPS) Pollution:** Pollution of surface or groundwater supplies originating from land use activities and/or the atmosphere, having no well-defined point of entry.
13. **Pollutant:** Anything introduced into the environment (soil, water, or air) that degrades the usefulness, and health and safety of a resource.

14. **Runoff:** Precipitation, snowmelt, or irrigation that flows over the land, eventually making its way into the soil or to surface water (such as a stream, river, and pond).
15. **Sediment:** Eroded soil and rock material and plant debris, transported and deposited by runoff or other means.
16. **Site Planning:** In terms of stormwater management, a preliminary component of a development plan, where the appropriate BMP structures are properly selected and installed.
17. **Storm Drain:** An inlet for the capture of stormwater.
18. **Stormwater:** Runoff from a storm event, snowmelt runoff, and surface runoff and drainage.
19. **Watershed:** A geographic area in which all water drains into a given stream, lake, wetland, estuary, or ocean.
20. **Well:** A hole dug or drilled into an aquifer to monitor or withdraw groundwater. The term includes drilled bores as a specific type of well. Household wells are commonly termed bores.
21. **Wellhead Protection Area:** Areas designated by states according to Section 1428 of the Safe Drinking Water Act, as amended, to protect wells and recharge areas that supply public drinking water systems
22. **Wetlands:** Generally include swamps, marshes, bogs, and similar areas. As defined in 40 CFR 230.3 and the HRS (Hazard Ranking System), wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Such areas can be natural or constructed. Only areas that meet this definition are eligible to be evaluated as wetlands for HRS purposes.

Section 2.200.07 Appendix

See Municipal Non-Point Source Water Quality Protection and Related Land Use Standards Analysis (Water Quality Protection matrix) in Part 4 Appendix. Prepared by Strafford Regional Planning Commission, Dover, NH: May 2004.