

# Water Resources

**Goal:** *To protect the quality and manage the quantity of the State’s water resources, including lakes, aquifers, great ponds, estuaries, rivers and coastal areas.*

<i>Policies</i>	<i>Strategies</i>	<i>Responsibility</i>	<i>Implementation</i>
<i>To protect significant surface water resources from pollution and improve water quality where needed.</i>	Maintain local land use ordinances to incorporate stormwater runoff performance standards consistent with: <ul style="list-style-type: none"> <li>a. Maine Stormwater Management Law &amp; Regulations</li> <li>b. Maine DEP allocations for allowable levels of phosphorus in lake/pond watersheds</li> <li>c. Maine Pollution Discharge Elimination System Stormwater Program.</li> </ul>	Town Manager Selectmen Planning Board Code Enforcement	Ongoing
<i>To protect current and potential drinking water sources</i>	Enforce local land use ordinances, as applicable, to incorporate low impact development standards.	Planning Board Code Enforcement	Ongoing
<i>To minimize pollution discharges through the upgrade of existing public sewer systems and wastewater treatment facilities.</i>	Encourage landowners to protect water quality. Provide local contact information at the municipal office for water quality best management practices from resources such as: <ul style="list-style-type: none"> <li>a. Natural Resource Conservation Service</li> <li>b. U Maine Cooperative Extension</li> <li>c. Soil &amp; Water Conservation District</li> <li>d. Maine Forest Service</li> <li>e. Woodlot Associations</li> </ul>	Town Manager Planning Board Code Enforcement Local Landowners	Ongoing

*To protect water resources in growth areas while promoting more intensive development in those areas.*

Maintain watershed management plan that will promote continued development or redevelopment without further stream degradation.	Planning Board Code Enforcement	3-5 Years
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Maintain public wellhead and aquifer recharge area protection mechanisms.	Town Manager Planning Board Code Enforcement	Ongoing
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*To cooperate with neighboring communities and regional/local advocacy groups to protect water resources.*

Participate in local and regional efforts to monitor, protect and, where warranted, improve water quality.	Town Manager Board of Selectmen Planning Board Local Landowners KVCOG SEDC	Ongoing
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Maintain water quality protection practices and standards for construction and maintenance of public and private roads and public properties and require their implementation by contractors, owners, and community officials and employees.	Town Manager Board of Selectmen Planning Board Local Landowners Highway Department Code Enforcement	Ongoing
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Provide educational materials at appropriate locations regarding aquatic invasive species.	Town Manager Lake Association	Ongoing
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The Town of Madison’s water resources include the Kennebec River, Wesserunsett Lake and a number of streams, brooks and wetlands.

**Surface Water Resources (Kennebec River)**

Madison lies entirely within the Kennebec River basin. (See Map M.4) Water in the western section of the town drains directly into the Kennebec River, while the eastern part of town drains primarily into Wesserunsett Lake, then into the Kennebec at points further south. Pooler Brook and Jones Brook are tributaries within the western half that drain directly into the

Kennebec. Wesserunsett Lake, Haley Brook, Hayden Brook, Lawrence Brook and some unnamed streams, drain into Wesserunsett Stream, which flows into the Kennebec River just east and downstream from the Town of Skowhegan.

The Kennebec River is one of Madison's most significant natural resources. The total drainage area of the Kennebec River is 5,870 square miles. The Kennebec supplies hydro power for Madison Paper at two dams located near the Madison-Anson Bridge. The river is also important to Madison for its fisheries, wildlife, aesthetic, historic and recreational values.

Currently, there are three licensed discharges into the Kennebec River; Madison Paper Industries, the Anson/Madison Sewerage Treatment Plant and the Nathan Street storm water overflow are all located below the Madison-Anson Bridge. Relicensing by FERC and monitoring by the Maine Department of Environmental Protection at Madison Paper Industries helps to ensure that Kennebec River quality will not decline from industrial discharge. Anson/Madison Sanitary District licensing through the Maine Department of Environmental Protection provides the same protection for the Kennebec for treatment discharges and the Department monitors the storm water discharge on Nathan Street as well.

The Kennebec River is an important regional resource. Communities along the Kennebec River have improved river access and waterfronts, enhancing recreational opportunities for area residents that include swimming, boating, and fishing. Public use of the river has increased. Regional planning for promoting the recreational use of the river should also consider public impact on the river to help maintain the water quality, wildlife and significant habitats and scenic vistas. Designated public access areas with rest facilities should be considered in planning as well as planning natural resource protection for critical habitats.

Public input confirmed the best approach is one that balances conservation and promotion for tourism and recreational use. It was noted that promotion of the River should be regionalized to include Anson, Solon, Skowhegan, Norridgewock and Bingham to collaborate on events and activities as well as projects to improve access.

Grants are available to pursue for watershed protection projects. The Town Office was encouraged to pursue such funding.

### **Surface Water Resources (Wesserunsett Lake)**

Wesserunsett Lake continues to provide recreation for visitors and residents on the lake as it has done for many generations. Area residents enjoy boating, fishing, swimming, winter ice fishing, skating, skiing and snowmobiling. Camps, seasonal homes and year round homes dot the shoreline. Wesserunsett is a densely developed lake, with more than 23 residences per shoreline mile, and seasonal residences continue to be converted to year-round homes.

The lake is about 1,400 acres in size, with just over 9 miles of shoreline. It has an average depth of 12.9 feet, and a volume of 5.8-5.9 billion gallons. The lake's watershed is 15.76 sq. miles (10,086 acres), with an estimated flushing rate of 1.3 times a year.\*

The Maine DEP (MDEP) and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of data for Wesserunsett and hundreds of other Maine lakes. They have trained and certified the Wesserunsett volunteers who are now in the 32<sup>nd</sup> year of monitoring water quality of the lake under these programs.

In their water quality report for 2012, the volunteer monitors noted, among other things\*\*, that clarity averaged 0.9 feet shallower in both 2011 and 2012 than the long-term average of 19.4 ft. Water quality is considered average by the MDEP/VLMP, but there may be a trend of decline. All parameters should continue to be monitored and any trends identified.

Two strong protections of water quality at Lake Wesserunsett are Madison's Shoreland Zoning Ordinance and the Lake Wesserunsett Association (LWA).

The Lake Association's mission is to preserve, enhance and protect the lake and its environs. LWA participates in monitoring water quality, tracking the loon population, educating the public about water quality issues with handouts, and managing the Courtesy Boat Inspection program at the East Madison Boat Launch.

The Town provides funds to help support the LWA's Courtesy Boat Inspection and the water quality monitoring programs. Volunteers pay for other monitoring expenses in addition to their time and mileage.

In 2012, they contributed 82 hours, drove 357 miles and donated \$106 for expenses. The volunteers and the LWA both donate annually to the VLMP and MCOLA to help support their lake protection programs.

The LWA Courtesy Boat Inspection program (CBI) has been active for 12 years. In 2012, 893 boat inspections were conducted at the East Madison Boat Launch. In addition, volunteers have conducted aquatic plant surveys of high-risk areas around the lake.

\*Sources: 2004 Bathymetry study by the University of Maine at Farmington funded by the Lake Wesserunsett Association (LWA). 2011 Volunteer Lake Monitoring Program (VLMP). 2001 Colby College Wesserunsett Lake land use/water quality report.

\*\*The number of parameters measured by the volunteers has increased since 1982 to include clarity (Secchi Disk transparency), total phosphorus, water temperature, ice-in/ice-out dates, precipitation, depth, color, dissolved oxygen, and estimates of *Gloeotrichia echinulata* abundance (a cyanobacterium).

Fortunately, no invasive plants have been found by the boat inspections or surveys. These efforts should continue as constant vigilance is needed to prevent introduction of invasive aquatic plants, which could spread quickly, in such a shallow lake as Wesserunsett.

The Town has regulatory power under its Shoreland Zoning Ordinance to protect one of the town's most valuable environmental and economic assets. The LWA and the volunteer monitors have no regulatory authority. The Town of Madison should support these efforts in years to come.

Public input identified concerns about discharges into both the River and the Lake, not only from homes that live directly on the water, but also residents who live in town. Continued education is needed to help people understand how certain chemicals affect the water quality. Education resources may include the Lake Smart Program and utilizing the extension office.

**Groundwater Resources**

Wise management of groundwater resources assures that plentiful, clean water remains available to Madison residents who rely on wells for safe drinking water. The Town of Madison has two types of aquifers, sand and gravel aquifers and bedrock aquifers. The Maine Geological Survey (MGS) identifies two areas within town favorable for the development of groundwater supplies from sand and gravel deposits. The sand and gravel aquifers have yields greater than ten gallons per minute, sufficient for public water supply or to serve a number of homes.

Madison's significant sand and gravel aquifers are located along the entire length of the Kennebec River, (except for a gap at the urban core of town), and along the northeast shore of Lake Wesserunsett (See Map M.5). Bedrock aquifers have not been mapped in Madison, however it is estimated that 70% of homes with private wells in Maine use water from bedrock aquifers.

The Anson/Madison Water District serves 1,200 customers within the Madison village district. The water distribution system consists of near 90,000 feet of pipe and 90 hydrants. For those areas in the Town’s rural district, clean drinking water is provided from private wells. The following table (A.31) lists the areas active public water systems classified by the state. Each of these systems represents significant development with need for water and sewer services.

<b>Table A.31</b> Active Public Water Systems in Madison	<b>State ID#</b>	<b>Location</b>	<b>PWS Type</b>
<b>Skowhegan School of Art – Site #1</b>	ME0000397	White Schoolhouse Road	Transient
<b>Abnaki Camping Center</b>	ME0004681	Lake Wesserunsett	Transient
<b>Golden Eagle Restaurant</b>	ME0004696	US Route 201	Transient
<b>Lakewood Tennis Association</b>	ME0004697	US Route 201	Transient

Jellystone Park at Yonder Hill	ME0004701	US Route 201	Transient
Anson/Madison Water District	ME0090930	East Madison Road	Community
Lakewood Golf Course Club House	ME0092422	US Route 201	Transient
Lakewood Community Water Association	ME0094651	US Route 201	Transient
Backyard Farms Greenhouse – Site #1	ME0094858	River Road	Non-Transient / Non-Commercial
Somerset Residential Care Center	ME0095280	Preble Ave	Community
Skowhegan School of Art – Site #2	ME0100397	White Schoolhouse Road	Transient
Backyard Farms Greenhouse – Site #2	ME0194858	River Road	Non-Transient / Non-Commercial

In addition, protection is provided by enforcement of local and state ordinances. The municipality requires that contractors and public works projects utilize best management practices to protect ground and surface water resources in daily operations.

## *Natural Resources*

**Goal:** *To protect the state’s other critical natural resources, including without limitation, wetlands, wildlife and fisheries habitat, sand dunes, shorelands, scenic vistas, and unique natural areas.*

<i>Policies</i>	<i>Strategies</i>	<i>Responsibility</i>	<i>Implementation</i>
<i>To conserve critical natural resources in the community.</i>	Ensure that land use ordinances are consistent with applicable state law regarding critical natural resources.	Planning Board Code Enforcement	Ongoing
	Designate critical natural resources as Critical	Planning Board	3-5 Years

*To coordinate with neighboring communities and regional and state resource agencies to protect shared critical natural resources.*

Resource Areas in Future Land Use Plan.		
Through local land use ordinances, require subdivision or non-residential property developers to look for and identify critical natural resources that may be on site and to take appropriate measures to protect those resources, including, but not limited to, modification of the proposed site design, construction timing, and/or extent of excavation.	Planning Board Code Enforcement	3-5 Years
Through local land use ordinances, the planning board will include pertinent information regarding critical natural resources as part of the review process.	Planning Board Code Enforcement	3-5 Years
Initiate and/or participate in inter-local and/or regional planning, management, and/or regulatory efforts around shared critical and important natural resources.	Town Manager Economic Development Planning Board KVCOG	3-5 Years
Pursue public/private partnerships to protect critical and important natural resources.	Town Manager Economic Development Board of Selectmen	3-5 Years
Distribute or make available information to those living in or near critical or important natural resources about	Town Manager Economic Development Code Enforcement	3-5 Years

current tax use programs  
and applicable local, state  
or federal regulations. `

An understanding of Madison's natural resources is essential to planning for future development. These resources contribute to the community's attractiveness as a place to work and live. Map M8 outlines the natural restrictions for development in Madison, but also provides a summary of critical natural resources.

The Town's important natural resources include the following:

**Shorelands:** The Shoreland Zoning Ordinance and the Floodplain Management Ordinance govern activities in areas within 250 feet of the highwater mark of the Kennebec River, Wesserunsett Lake, Rowell Bog and larger brooks and streams (See Map M2). Shoreland Zoning standards are consistent with neighboring communities.

**Wetlands:** All wetlands receive varying amounts of protection through the Federal Clean Water Act and the State Natural Resources Protection Act. Madison has identified a number of wetlands over 10 acres by aerial search (See Map M8).

A detailed listing of local wetlands is available from the Maine Geological Survey, and the Department of Inland Fisheries and Wildlife.

**Wildlife/Fisheries:** Deer wintering provides critical habitat for deer locally, and the Kennebec River/Wesserunsett Lake resources house sport fisheries to include salmon, rainbow trout, brook trout and brown trout. There are also a large number of birds and birding guides are available from the state Office of Tourism.

**Unique Botanicals:** A number of species identified as endangered or at risk are located along the Kennebec, Rowell's Bog and Wesserunsett Lake. Once studies have been done to identify exact locations, the Town can then assess the level of protection needed. The most current listing can be found with the Maine Natural Heritage Program.

While the Town's Subdivision Regulations do not provide guidance to the Planning Board for the management of wildlife, fisheries, unique botanical resources, unusual geological sites or scenic areas, state wide guidance is available.

The Site Review Ordinance requires that the proposed use "will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline." The Ordinance does not contain any specific standards to assist the Planning Board in assessing

proposed development in this regard. There are resources, however available at the state level.

Table A.33 lists local scenic areas as determined by the Planning Board.

<i>Table A.33 – Scenic Vistas and Areas</i>	
1.	Thurston Hill Scenic Vista
2.	Robbins Hill North of 12 Corners
3.	US Route 201 looking southward onto Lakewood
4.	Baron' Corner looking northwestward
5.	Kennebec River corridor
6.	Eames Hill looking southward and westward
7.	Ward Hill/Preble Avenue looking southward and westward
8.	Blackwell Hill Road
9.	Old County Road looking westward and northward
10.	Old railroad trestle on Kennebec River
11.	Wesserunsett Lake
12.	The Historic Pines
13.	Father Rasle Monument
14.	Section of railroad track along Kennebec River just south of UPM Madison

Currently there are no recognized threats to critical natural resources, and the Town is prepared to partner with local and regional efforts to protect natural resources should the opportunities present themselves.

