

**DRAFT**

# **WATER RESOURCES**

**INTRODUCTION**

**KEY ISSUES**

**UNDERGROUND TANKS NEAR DRINKING WATER**

**WATER QUALITY PROTECTION**

**CONDITIONS AND TRENDS**

**WATER BODY DESCRIPTIONS**

**PUBLIC WATER SUPPLIES**

**SHORELAND PROTECTION**

## INTRODUCTION

Water resources are vital to Belfast residents, the environment, and the economy. The sensible use of water resources will help ensure the physical health of residents, as well as the usefulness and value of properties. The purpose of this chapter is to help the City identify, manage and adequately protect its water resources, protect the health of residents and safeguard the local economy dependent on water resources. Note: for marine resources, see the Marine Resources Chapter.

## KEY ISSUES

There are several state-identified point sources of pollution from licensed discharges (five wastewater outfalls, four overboard discharges). See the map titled Water Resources for their locations. One of the state-identified wastewater outfalls has ceased operation; it once served Stinson's Cannery. Two wastewater outfalls are part of the Wastewater Treatment Plant. See the Public Facilities Chapter for information on pollution reduction from the Wastewater Treatment Plant. The City has successfully pursued the elimination of two privately owned overboard discharges within the past twenty years. Also, the City has expended over \$10 million in public funds in the past twenty years to decrease the amount of infiltration and inflow into the City sewer collection system, which has had a direct impact on water quality issues associated with the two City outfalls for the wastewater treatment plant. Belfast believes it has taken significant steps to address point system discharges, and it is pursuing additional steps to further reduce existing infiltration and inflow into the sewer system, which the City feels is the most effective way it can further affect point sources of discharge.

Runoff from rain falling on impervious surfaces, like buildings and pavement, can be expected from new development. In such runoff, pollutants occurring naturally like phosphorous and synthetic like petroleum products can be transported into wetlands and water bodies. However, impervious surface percentage maximums, as set in shoreland zoning ordinance provisions, can limit the amount of runoff into water bodies. In especially sensitive areas, resource protection designations prohibit development. Best Management Practices during construction, including earthmoving, are referenced in the City Code. It is believed that shoreland zoning and related provisions are effective overall. However, with Maine coast experiencing increasing amounts of rainfall from more frequent storms, and storms which produce greater volumes of rainfall and for longer durations, Belfast, like many Maine municipalities, will need to re-examine existing stormwater regulations to ensure new and replacement stormwater systems have the capacity to manage stormwater flows in an environmentally sensitive manner.

The City is unaware of pollution threats to groundwater supplies overall. There are limited locations where pollution from underground oil storage tanks have been reported, and remediation/clean up has occurred when a spill was reported. Maine DEP records 66 facilities with oil storage tanks in Belfast, of which three facilities are near public water supplies and two are near private water supplies. See the next table for these facilities. No tanks are located on aquifers.

### BELFAST UNDERGROUND TANKS NEAR DRINKING WATER SOURCES

Master Tank ID	Reg #	Tanks	Facility	Vo (gal)	Installed	Status	Status Date	Leak Detection
1513004	1513	4	Dutch Chev	1,000	1/1/1968	Abandoned	6/1/1990	Unknown
1824001	1824	1	Waldo County Jail	4,000	1/1/1974	Active	1/1/1974	Manual groundwater sampling
4282001	4282	1	Tallpines Rehab	5,000	3/1/1986	Active	3/1/1986	Secondary containment with continuous electrical monitoring
15262004	15262	4	Big Apple	20,000	5/5/1997	Active	5/5/1997	Secondary containment with continuous electrical monitoring
20346001	20346	4	Belfast Variety Rt. 52	13,000	8/17/2000	Active	10/25/2000	Secondary containment with continuous electrical monitoring

*Source: Maine DEP Note: None of these tanks was approved under State Site Law after September 2001.*

In 2019 the City of Belfast was awarded a \$300,000 Brownfields grant from the Environmental Protection Agency (EPA). The City of Belfast will utilize this Brownfields Assessment funding to continue to implement and improve its existing comprehensive community-wide Brownfields Assessment Program which has been proactively identifying properties on which pollution threats may exist and helping property owners to abate any identified problems.

## WATER QUALITY PROTECTION

The City believes that public water supplies and their recharge areas are adequately protected overall through the Watershed and Aquifer Protection District; zoning standards which were advocated by the Belfast Water District and which were enacted in the early 1990's. To date, no significant development has occurred within these overlay district areas, and the Water District has not identified any problems within its watershed. At present, no changes are proposed to the current regulatory standards. The City will rely upon the Water District to identify the potential need for other standards. No expansions of public water supply are anticipated. See C.5 below for the State assessment.

Non-regulatory measures to protect water quality include the education of business owners and homeowners on the proper storage and disposal of subsurface waste, solid waste, fertilizers, herbicides, and related chemicals, including recycling at the redemption center/transfer station. For example, signage has been installed to inform residents of watersheds boundaries and pavement markings have been installed near storm drains to remind us that stormwater along with any pollutants it carries end up in Belfast Bay. The City can encourage local and regional land trusts to pursue the protection of habitats abutting watercourses through conservation easements or through purchase.

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The most significant measure the City has taken is to spend over \$10 million in public funds over the last twenty years to upgrade the wastewater treatment plant and to decrease infiltration and inflow into the City sewer collection system. Prior to this work many of Belfast's sewer mains were over 100 years old and in serious disrepair. The work has been very costly, but the City was very successful in decreasing the frequency and volume of pollutant discharges into the Bay. The City also has often used municipal and/or state funds to replace malfunctioning septic systems for those who cannot afford the cost of replacement.

There are various opportunities to partner with local and regional advocacy groups that promote water resource protection. This could include working with these groups to provide educational materials to landowners and developers as well as using data collected through regional efforts to contribute to the identification of key areas of water resource protection. These groups include the Belfast Bay Watershed Coalition (based in Belfast), a group of organizations and individuals working to support conservation and stewardship of natural, scenic, historic, and public access resources of the Belfast Bay Watershed through research, community-building and education. It is affiliated with the Lower Penobscot Watershed Coalition. Regional and state natural resource organizations that can serve Belfast include the State of Maine Drinking Water Program (Augusta), Maine Rural Water Association (Brunswick), Natural Resources Council of Maine (Augusta), and Coastal Mountains Land Trust (Camden).

## CONDITIONS AND TRENDS

See the map titled Water Resources for the locations in Belfast of national inventory wetlands by type, water bodies, stream classification, wetland boundaries (drainage divides), overboard discharges, wastewater outfalls, and aquifers of significant yield. See the next table for water body descriptions. See also the map titled Land Cover and map titled Zoning for current and permitted land uses adjacent to water bodies.

## WATER BODY DESCRIPTIONS

Water body	Ecological, economic, recreational values	Current watershed land uses	Threats to water quality	Documented water quality
Belfast Bay and Harbor	See Marine Resource Chapter			
Belfast Reservoir #1	Water Supply	Forested	Development	None known
Belfast Reservoir #2	Water Supply	Forested	Development	None known
Belfast Reservoir Outlet	Water Supply	Forested	Development	None known
Goose River	Hydropower, Water Recharge	Residential, Nonresidential	Run-off, development	None known
Little River	Water Supply Recreation	Residential Forested Agriculture	Run-off, development	None known
Lower Mason Pond	Recreation	Residential	Development	See Water Resource Appendix
Marsh Fork Stream	Water Quality	Forested & Residential	Residential development	None known
Passagassawakeag River	Ecological (Atlantic Salmon Habitat), Economic	Forested, Residential, Mixed Use/Developed	Wastewater outfalls, overboard discharges	None known
Upper Mason Pond	Recreation	Forested, Wetlands, Clear-cut, Residential	Residential development, hydropower levels	See Water Resources Appendix
Warren Brook	Water Quality	Forested & Residential	Minimal threats	None known
Webster Brook	Water Quality	Forested & Residential	Minimal threats	None known
Wescot Stream	Recreation	Forested & Residential	Residential development	None known

Notes: The reservoirs no longer supply drinking water. All rivers and streams are Class B. All estuaries and marine waters are Class SB.

**Statutory Definition of Class B waters:**

*Class B shall be the 3rd highest classification.*

Class B waters shall be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; and navigation; and as habitat for fish and other aquatic life. The habitat shall be characterized as unimpaired. [1985, c. 698, § 15 (new).]

**Statutory Definition of Class SB waters:**

*Class SB waters shall be the 2nd highest classification.*

Class SB waters must be of such quality that they are suitable for the designated uses of recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, industrial process and cooling water supply, hydroelectric power generation, navigation and as habitat for fish and other estuarine and marine life. The habitat must be characterized as unimpaired. [2003, c. 227, §7 (amd).]

**PUBLIC WATER SUPPLIES IN BELFAST**

Public Water System (PWS) Name	PWS Type	Source Name	Source Type	PWS ID#
Belfast Water District	C	Jackson Pit Well GP 51'	WL	ME0090140
Piper Stream Mobile Home Park	C	125' Bedrock Well 11/1990 50 GPM	WL	ME0095560
Belfast Water District	C	Gp Wells-Smar Rd Well 47'	WL	ME0090140
Belfast Curling Club	NC	Dr Well	WL	ME0008779
County Rose Webbas Roadhouse	NC	Bedrock Well	WL	ME0021568
Belfast Cohousing & Ecovillage Condos	C	*No Source Water Assessment	WL	ME0092433
Belfast United Methodist Church	NC	*No Source Water Assessment	WL	ME0092356

*Notes: C = Community Water System: A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.*

*NC = Non-Community Water System: A public water system that is not a community water system.*

Maine DEP has assessed public water supplies in Belfast. They rate the Belfast Public Water District future risk of chronic contamination as moderate; for Piper Stream Mobile Home Park

the risk is high; and for the Belfast Curling Club the risk is moderate. The placement of land around these supplies into resource conservation through conservation easements or through resource protection zoning would improve these ratings and reduce the future threats to drinking water. At some point the City may need to work with the owners of the Piper Stream Mobile Home Park to install updated subsurface wastewater management improvements to reduce the risk of contamination, and/or to require the owner to purchase abutting land to create a buffer zone around the Park.

## SHORELAND PROTECTION

Shoreland/Waterfront Zoning: Belfast has adopted Shoreland Zoning provisions (Chapter 82 of the Belfast Code), which are intended to provide protection to shorefront areas, within a 250-foot area from the normal high water line of all tidal waters, identified freshwater wetlands that are 10 acres or more, the upland edge of freshwater wetlands, salt marshes, salt meadows, wetlands associated with great ponds, rivers and specified flood hazard areas. An area of 75 feet from the normal high water line is set for other water bodies including tributary streams. These shoreland zones include Resource Protection, Limited Residential, Urban Residential, General Development, Stream Protection, Stream Development, Manufactured Housing Community, and Waterfront Development. Beyond shoreland zoning, an Aquifer-Watershed Overlay District has been established to protect areas with aquifers that are used for public drinking water supplies by limiting development. See the ordinance provisions for more information on these standards and permitted uses.