

**LORING UTILITIES WATER SYSTEM
LITTLE MADAWASKA RIVER RESERVOIR WATERSHED
EXECUTIVE SUMMARY**

The Loring Utilities Water System serves approximately 1,500 people during the day under current daily operations of Loring Commerce Centre. LUWS supplies drinking water from a reservoir located on the Little Madawaska River in the Town of Caribou, Maine. The entire watershed of the river extends to the north and west into the towns of New Sweden, Westmanland and Connor Township. The local reservoir watershed up to one mile up river is approximately 65 percent forested and 22 percent in agricultural use. Residential development locally near the reservoir and throughout the larger watershed area is sparse. Land areas bordering on the reservoir and upstream along the river are protected under LUWS and USFWS ownership. In addition, 250-foot Shoreland Zoning has been adopted by the Town of Caribou and upstream throughout the watershed. The upper portion of the reservoir and nearby upstream river segment are reportedly used for light recreational activities including fishing and boating.

The LUWS water supply source is located in a remote area with a low population density. The local watershed of the reservoir is mostly undeveloped and forested to the north and east. Limited residential development and agricultural uses are present in the western portion of the watershed. A relatively large area of land bordering the reservoir and river is under protective ownership in addition to the land use controls provided by shoreland zoning. No significant threats to the reservoir source were identified through the SWAP study. The LUWS should keep a vigilant watch for potential concerns that may arise through recreational activities on the reservoir and encroachment by more active farming on the western side of the reservoir where natural buffers are limited.

Millions of gallons of water flow down the river each day. Testing by LUWS shows good water quality conditions in the reservoir. On occasion during surface runoff events, water quality in the reservoir shows a temporary increase in color and turbidity. The increase in these parameters may be related to runoff from nearby agricultural activities. However, the high volume of daily flow down the river provides a constant flushing of the reservoir so that these conditions do not persist.

Based on the remoteness of the water supply, limited watershed development, protective ownership and zoning control of land along the river, and high flow rate of the river, the overall susceptibility of the water supply source is considered to be low.

SWAP RANKING AND RECOMMENDATIONS

The SWAP assessment factors indicate that overall susceptibility of the water quality in the storage reservoir is low. This ranking is supported by analytical data showing good water quality, a limited threat from surrounding land use activities and large volume of flow in the river which maintains a high flushing rate through the reservoir.

Specific factors considered in assessing the overall risk are summarized below.

LITTLE MADAWASKA RIVER SURFACE WATER ASSESSMENT

| Zone | Measure | Findings | Risk Level |
|----------------|--|--|--------------|
| Watershed | Ambient Water Quality Existing Conditions | Attains Class A Limited agricultural uses and remote landspeading of ash residuals pose a low threat on surface runoff. High river flows provide continuous flushing through the reservoir. | Low Low |
| | Future Development | Future development is prohibited on land in USFWS ownership. Development pressure appears to be low due to the remoteness of the area and limited population. | Low |
| | Overall | | Low |
| Shoreland | Source Classification Soils | Undetermined No identified exposures of erodible soils (Stetson). | N/A Low |
| | Activities Posing a Threat | Encroachment by farming activities on the west side of the reservoir. | Low-Moderate |
| | Potential for Future Threats | Shoreland protection by USFWS and area remoteness minimizes threats although more active farming, cultivation and use of chemicals to the west of the reservoir would be a concern. | Low |
| | Overall | | Low |
| Intake | Raw Water Quality | Undetermined; likely low trophic conditions with high flow rates in river. | Low |
| | Ownership/Control | LUWS ownership/control limit access by land. | Low |
| | Activities Posing a Threat | Access by water is not limited, but recreational use is minimal. | Low |
| | Potential for Future Threats | Beaver and other wildlife around the intake can affect source quality. Increased recreational use in the reservoir. | Low |
| | Overall | | Low |
| Overall | | | Low |

Recommendations

The overall ranking for the source susceptibility to potential threats is low. LUWS can provide added protection to the source water quality as follows:

- Continue to implement a thorough water quality-monitoring program.

- Place markers or signs to notify the public and keep the intake area clear from recreational activities allowed on the reservoir.
- As a stakeholder in issues related to water resource protection, maintain public awareness and good communications with the surrounding watershed communities so that future development threats on the river can be mitigated through the adoption of good land use practices and regulatory controls.

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Source Water Assessment Program
Drinking Water Program
Maine Department of Human Services
11 State House Station
Augusta, Maine 04333



prepared by

Drumlin Environmental, LLC
15 Franklin Street, P. O. Box 392
Portland, Maine 04112-0392
(207) 771-5546