

CANTON WATER DISTRICT LAKE ANASAGUNTICOOK WATERSHED

EXECUTIVE SUMMARY

The Canton Water District serves approximately 900 people from its Lake Anasagunticook 598-acre water supply. The 9,050-acre watershed of the lake is located primarily in Hartford, with the eastern edge extending into Canton and northern edge crossing into Peru. The lake watershed has sparse residential development and a limited network of roads. In the past, the lake was a popular destination for summer visitors and for local development with camps and year-round homes. However, in more recent times, the pressure in the area for recreation and development has diminished. Approximately 90 percent of the watershed is forested with the remaining land area in hay or croplands. The Canton Water District owns a few acres of land along the eastern shore of the lake where the intake and filtration plant are located. Currently, the towns of Hartford and Canton rely on a 250-foot setback Shoreland Zone to control how development occurs near the lake.

The lake water is considered to be mesotrophic despite its moderate size, depth and natural flushing capacity. Available data for the lake show evidence of increased water quality sensitivity that is related to the history and pattern of land use activities in the watershed. The increased sensitivity indicates that the lake is now more susceptible to existing and future land uses. Point-source threats were not found through our reconnaissance of the watershed and none were listed in available databases although wastewater disposal threats at lakefront camps may unknowingly exist. However, the cumulative effects of non-point source runoff from years of human activity in the watershed appear to have altered water quality in the lake. Some of these non-point sources include agricultural activities, landspreading of waste residuals, runoff from paved and gravel roadways, land clearing with development in the shoreland and human activities for recreation.

The lake level and outflow is controlled at a privately owned dam located on the outlet stream. The lake is used for all types of recreational activities including fishing, boating and swimming. A town beach and boat landing are present and provide public access to the lake. The Canton Water District intake is marked with buoys and a few signs are posted at public access points to provide notice of the water supply and limit certain activities.

Based on the current watershed and shoreland setting, existing quality and sensitivity of the lake, the overall susceptibility of the Lake Anasagunticook water supply is ranked low to moderate.

SWAP RANKING AND RECOMMENDATIONS

The SWAP assessment factors indicate that overall susceptibility of the water quality in Lake Anasagunticook is low to moderate. The low ranking is based on the sparse density of development in the watershed, rural land use and the limited presence of potential threats in the watershed. However, the susceptibility is elevated because historical activity in the watershed has created a more sensitive lake environment. The Mesotrophic state is an indication of lake stress and a greater tendency to experience algae blooms. Shoreland development, camp roads and recreation are factors that contribute to the lake's sensitivity and provisions to mitigate these factors are limited. Specific factors considered in assessing the overall risk are summarized below.

LAKE ANASAGUNTICOOK SURFACE WATER ASSESSMENT

Zone	Measure	Findings	Risk Level
Watershed	Ambient Water Quality Existing Conditions	Threatened for meeting Class GPA. Current land use characteristics present a low threat to water quality. Development is sparse, forest harvesting and agricultural activity are now limited compared to historical activity.	Moderate Low
	Future Development	Zoning controls are lacking; however, the existing road network is limited and development pressure is low.	Low-moderate
	Overall		Low
Shoreland	Lake Classification Soils	Mesotrophic Erodible soils on steep slopes and banks are present; erosion potential exists on camp roads and from pavement runoff on roads near the lakeshore.	Moderate Low-Moderate
	Activities Posing a Threat	Shorefront development and wastewater disposal.	Low-Moderate
	Potential for Future Threats	Increased shoreland development with limited zoning controls or prohibitions although growth pressure is presently low.	Low
	Overall		Moderate
Intake	Raw Water Quality Ownership/Control	PEARL data, Trophic State = 41 to 58. Limited District land ownership; buffer marked around intake with buoys.	Moderate Low
	Activities Posing a Threat	Recreation and unauthorized access.	Low-Moderate
	Potential for Future Threats	Same as above.	Low
	Overall		Low-Moderate
Overall			Low-Moderate

Recommendations

The overall ranking for the lake susceptibility to threats of contamination is low to moderate. The Canton Water District and town officials could provide added protection to the lake through the following actions.

- Implement a thorough lake-monitoring program to establish the baseline conditions and track trends or changes in water quality over time. The program should include periodic testing along the lakeshores where camps are clustered and at locations of major tributary discharges into the lake to determine nutrient loading from different portions of the watershed.
- Additional measures to protect the water supply source are warranted due to the sensitivity of the lake and lack of restrictions on recreational access to the lake. This may be accomplished by posting additional signs at the shore and on major roads in the watershed, through local mailings to shorefront landowners and through local public education programs.
- Work with the Maine DOT to minimize runoff impacts from Route 140 and to encourage best management practices with respect to the use of salt and other chemical products associated with roadway and roadside maintenance.
- Strengthen existing Shoreland Zoning provisions to minimize or prevent any future additive impacts from development on lake water quality. Develop additional protection for water resources through zoning ordinances that cover the entire watershed. Encourage a proactive program with municipal Code Enforcement officials to upgrade or replace poorly functioning wastewater disposal systems.
- A program should be developed to encourage large landowner preservation agreements, conservation easements and other strategies for protecting shoreland and upland areas from future development. Future development of the shoreland should be kept to a minimum.

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