

**Walloon Lake Dam and Fish Grate  
Historical Review and Recommendations**

**Tip of the Mitt Watershed Council**

**November, 1994**

## INTRODUCTION

Walloon Lake is a deep, meso-oligotrophic lake located in Emmet and Charlevoix Counties. It has been a popular vacation location since the late 1800's. It was also in the late 1800's that the debate over the appropriate lake level for Walloon Lake began.

In 1884, W. L. McManus constructed a removable log dam. He would remove the dam periodically to float logs from the lake to his mill. That same year Bear Lake (Walloon was originally named Bear Lake) residents sued McManus for constantly changing the lake level to suit his needs. The court ruled in favor of the Bear Lake residents. Over the next 33 years the Walloon Lake dam and the appropriate level for Walloon Lake were disputed in the courts. A timeline with summaries of actions related to the lake level are described in Table One.

The final court decision was decreed in 1917. Summer residents Charles Mayer, G.H. Darrach, and Robert Elliott, sued Frank McKercher and Alfred Hass, claiming the lower water level caused hardship to property owners. The U.S. District Court in Grand Rapids ordered that the south side of the dam be raised to the natural rim of the lake.

In 1963, the Walloon Lake Association installed a fish grate or screen on top of the dam to keep trout and other fish species in the lake and prohibit fish from the river from entering the lake. The installation of the fish grate initiated new controversies over the lake level, some claiming the fish grate raised the water level of the lake.

In this report, we will address whether the fish grate does influence the lake level and its impacts on water quality and the impact of the fish grate on the fisheries of Walloon Lake and the Bear River.

## WALLOON LAKE DAM AND FISH GRATE DESCRIPTIONS

The Walloon Lake dam is located at the southeast portion of the lake. The concrete spillway consists of two sills, the south sill is approximately 21 feet long and has an elevation of 687.23 and the north sill is approximately 14 feet long and has an elevation of 686.50 (elevations recorded by Charlevoix Abstract and Engineering Co., 1974). The difference between the sills is .71 feet (8.52 inches). Based on measurements taken for the "Project Vigilant" studies (Limno-Tech, Inc., 1984) elevation of Walloon Lake varies seasonally but is generally in the range of 687.04 feet to 687.86. Walloon Lake is about 100 feet above the elevation of Lake Michigan.

The fish grate is placed directly on top of both concrete sills. The grate consists of a bottom plate—approximately 3 inches wide by one quarter inch thick, a top bar—approximately 2 inches in diameter, and in between are metal slats—approximately 12 inches in height, one-eighth inch thick, and one inch wide (see photo in Figure Two). The opening between sills has been barricaded by different materials such as three wooden slats (shown in photo) and is currently blocked by a metal grate.

## WALLOON LAKE HYDROLOGY

The "Project Vigilant" (1987) studies indicate that 53% of the total inflow to Walloon Lake is from ground water. The remaining 47% is divided between precipitation which accounts for 24%, and tributaries, which makes up the remaining 23%. The majority of Walloon Lake's water loss occurs at its outlet at the Bear River which is located at the southeast portion of the lake. Evapotranspiration accounts for 27% of the water loss.

## Table One—TIMELINE OF EVENTS

- 1884 W.L. McManus constructed a movable log dam. He would remove the dam periodically to provide power for his sawmill and to float his logs from the lake to his mill.
- 1884 Bear Lake residents sued McManus for constantly changing the lake level to suit his needs. The court ruled in favor of the Bear Lake residents.
- 1889 The McManus dam was replaced with the Olds dam and the width narrowed from 40-50 feet to 16 feet.
- 1900 McManus and Thomas Birkett with the Petoskey Fiber Paper Co., replaced the Olds dam with a new dam. They lowered the bed of the river 24 inches (below natural level), the opening was narrowed to 14 feet. A plank floor was constructed with sides of timber, that allowed for the dam to be adjustable.
- 1903 Bear Lake residents sued McManus again, requesting a permanent injunction restraining the owners of the dam from raising and lowering the water level. No official record of outcome.
- 1905 McManus sued the Walloon Lake residents for raising the dam 28 inches and depriving factories and mills of sufficient water supply. The suit was to determine if riparians have the lawful right to interfere with the lake level. Charlevoix Circuit Court ruled that residents did have the right.
- 1910 McManus appealed the case to the Michigan Supreme Court which reversed the decision. The Court ordered that the dam be reduced to a point 18 inches above the upper surface of the planked floor and the remainder of the dam be reconstructed so that no water could pass through.
- 1911 According to the MDNR records, McManus and Birkett sold the dam to Walloon Lake property owners and the deed was in Samuel Walden's name.
- 1911 Samuel Walden replaced the wooden dam with a concrete dam that was 35 feet in width, the south side was approximately 21 feet wide and the north side 14 feet wide.
- 1913 McManus sued Walden, claiming the dam had been raised too high. Charlevoix Circuit Court ordered the dam be lowered 10 inches and the north side be maintained 14 feet wide. The decree was somewhat of a compromise.
- 1915 Frank McKercher (Administrator of the Walden Estate), hired a carpenter to lower the opening between Walloon Lake and Bear River by 10 inches for a distance of 14 feet on the north side of the plume.
- 1917 Summer residents Charles Mayer, G.H. Darrach, and Robert Elliott, sued McKercher and Alfred Hass, claiming the lower level caused hardship to property owners. The U.S. District Court in Grand Rapids ordered that the south sill (which is 21 feet) be raised to the natural rim of the lake and high enough to prevent the overflow of the lake in the 21 feet at high water, the remaining 14 feet of opening to remain at its present height and width.
- 1950 Merrill Bush a consulting engineer, was hired by a group of Walloon Lake property owners who formed the Walloon Lake Civic Association to finance the repair of the dam. The dam was repaired apparently without any alteration in lake level.
- 1963 Walloon Lake Association installed the fish screen (grate) under the recommendation of the Michigan Department of Natural Resources.
- 1965 Frank Burns was hired to repair the south end of the dam to the same height.
- 1974 The screen was removed by Melrose Township due to concerns over lake level.
- 1982 Fish screen was reinstalled by Melrose Township.
- 1989 Peter Vellenga requests that the screen be removed, due to its ability to raise the lake level and cause soil erosion.
- 1994 Tip of the Mitt Watershed Council is contacted by Peter Vellenga to review the issue.

*"Muhqua Nebis" by Dorothy Krenrich, letters, and township meeting minutes were the primary sources of information for this timeline.*

Figure Two-PHOTOS OF FISH GRATE AND DAM



