

Heron Lake State Dam Visit

On September 22, 2016, the board of managers and staff visited the Heron Lake State Dam. Randy Markl explained how the hydrology of the Heron Lake system works, provided an historical overview of the dam, and described the management procedures for the structure.

- The **Works Progress Administration constructed the original State Dam** in 1937. Its main purpose was to conserve water after the drought years of the thirties.
- The State Dam and a small parcel on the Heron Lake outlet is owned by the State of Minnesota, administered by the Department of Natural Resources (DNR)-Division of Waters, and operated by DNR-Section of Wildlife.
- Heron Lake is approximately 8,200 acres in size. The lake receives its water from a relatively large watershed (over 300,000 acres), resulting in a watershed to lake ratio of over 36:1.
- In 1986 and 1987, the State Dam was rebuilt. The purpose of the State Dam modification in 1986 was to allow for the drawdown of Heron Lake and to hold water during drier periods, as needed.
- The **Dalziel Dam** was located in the channel downstream of North Heron Lake in the North Marsh. The stoplogs and rocks in the bays were removed in December of 1989 to aid in the total drawdown of Heron Lake. This dam was completely removed in the spring of 1999.
- **In 2006, the concrete weir of the State Dam was cut down again from 1400.2 to 1399.5.** This puts the dam at 3.3 feet high. It is only one foot higher than the runout elevation of South Heron and 1.5 feet higher than the runout elevation of North Heron.
- **Heron Lake was designated a Wildlife Lake by the DNR Commissioner in 1973.** This designation allows water level drawdowns and water level management for the benefit of wildlife.
- When the gate is open, downstream channel restrictions control the lake's outflow. If the gate is closed and the water is approximately one foot above the crest of the dam (approx. 1400.5 to 1401), **the downstream channel again controls the outflow.** Therefore, during high flow periods (floods) **the downstream channel controls outflow, not the dam, regardless of the position of the gate.** It has long been the opinion of some that the State Dam is responsible for periodic, extensive flooding. There is no scientific data to support this claim. **DNR studies have shown that the dam has no effect during flood flows.**
- It has been noted at the water level gaging stations on the lakes, that water level bounces in the lakes, relative to rainfall amount in the watershed, are greater before and after the corn growing period. It might be assumed that if there was something growing in agricultural fields before and after corn, water level bounces would be lessened in that time period.

Historical photos and charts on pages two, three, and four are courtesy of DNR-Wildlife, Windom, MN



Photos (left to right, top to bottom): Heron Lake Dam late 1937 or early 1938; Heron Lake Dam – 1941; Dalziel Dam - 1998; Heron Lake aerial – 2000; Heron Lake aerial - 2001; HLWD gaging station on the Heron Lake Outlet – 2010; Heron Lake Dam – 2010 (2 photos); Heron Lake sediment



Photos (left to right, top to bottom): North Heron Lake – November 2012 (2 photos); Sandy Point – August 2012; State Dam Visit – September 2016 (3 photos)

Heron Lake Bottom Elevations

