Devils Lake basin is a 3,840 Sq. Mi. Sub-Basin of the Red River of the North. At current water levels, the lake itself has no natural outlet.

At an elevation of 1,446.5 Feet, Devils Lake began spilling naturally into Stump Lake. The Lakes have been equalized since 2007.

Rose Over 31.68 Feet from its lowest 1993 elevation to its June 2011 record elevation.

At Elevation 1,458.0 Feet, Devils Lake naturally overflows into the Sheyenne River. The Sheyenne River is a tributary of the Red River of the North, which flows into Canada.

Since glaciation, Devils Lake has been fluctuating from overflowing to dry. This variability is the normal condition of the lake – reflecting climate patterns.

A natural surface water connection from the northeast edge of the Devils Lake basin boundary to the Red River basin has been documented during several years since 1997. This is significant because it has provided a natural route for biota exchange between Devils Lake and the rest of the Hudson Bay watershed.
Record spring inflows caused a lake rise of over 3.5 feet, prompting the state to prioritize outlet capacity increases.

The State of North Dakota completed construction of an outlet from the west end of Devils Lake to the Sheyenne River.

Devils Lake rose 31.68 feet. An increase of 167,070 inundated acres, or about 261 square miles. During that same time period, the volume of water in Devils Lake had grown by more than seven times.

At a spill elevation of 1,458.0 Feet, Devils Lake has overflowed into the Sheyenne and Red Rivers at least twice during the past 4,000 years. The last Devils Lake spill into the Sheyenne River occurred less than 2,000 years ago.

At its spill elevation, the lake would cover more than 261,000 Acres.

TIMELINE FACTS

1993

Devils Lake falls to an elevation of 1422.62 feet (covering 44,230 acres) - prompting concerns about low water levels. As the summer goes on, the basin begins to receive tremendous amounts of moisture.

2005

The State of North Dakota completed construction of an outlet from the west end of Devils Lake to the Sheyenne River.

2009

Record spring inflows caused a lake rise of over 3.5 feet, prompting the state to prioritize outlet capacity increases.

An increase of 167,070 inundated acres, or about 261 square miles. During that same time period, the volume of water in Devils Lake had grown by more than seven times.
After many years of construction, the levee protecting the City of Devils Lake was completed, protecting the city from future lake level rises.

Cumulative outlet discharge exceeded 1.3 million acre-feet, contributing to gradual relief of the historic flooding.

The control structure allows natural erosion of the divide between Stump Lake & Tolna Coulee, while protecting downstream areas from an uncontrolled release of Devils Lake floodwater.

The control structure was constructed by the U.S. Army Corps, but is owned and operated by the North Dakota Department of Water Resources.

Outlet-related information can be referenced from the Devils Lake section of the Department of Water Resources website at www.DWR.nd.gov (click on Basins).

The control structure was constructed by the U.S. Army Corps, but is owned and operated by the North Dakota Department of Water Resources.

In June 2011, Devils Lake covered about 211,300 acres.

In 2012, a new outlet was constructed with a maximum capacity of 350 cfs.

Management: Outlet operation recommendations are discussed annually by a 17 member stakeholder committee. Outlet discharge occurs during the ice-free months and operation is constrained by downstream water quality and quantity limitations.

600 cfs
Cubic Feet Per Second (cfs)
Combined discharge capacity

250 cfs
Minimum Intake Elevation

1,445 Feet

350 cfs
Maximum capacity

1,446 Feet
Minimum Intake Elevation

The control structure was constructed by the U.S. Army Corps, but is owned and operated by the North Dakota Department of Water Resources.

Cubic Feet Per Second (cfs)

In 2012, a new outlet was constructed with a maximum capacity of 350 cfs.

Outlet discharge occurs during the ice-free months and operation is constrained by downstream water quality and quantity limitations.

Cumulative outlet discharge exceeded 1.3 million acre-feet, contributing to gradual relief of the historic flooding.

In June 2011, Devils Lake covered about 211,300 acres.

In addition to the outlets, the Corps of Engineers constructed a control structure at Tolna Coulee as an added level of protection from a natural uncontrolled overflow. In May, the control structure was completed & ready for operation.

During the summer, the state completed an outlet from East Devils Lake. This outlet has a maximum operating capacity of 350 cfs.

In 2005, an original 100 cfs outlet was expanded to 1,445 feet.

In 2010, the outlet was expanded to 1,446 feet.

Outlet-related information can be referenced from the Devils Lake section of the Department of Water Resources website at www.DWR.nd.gov (click on Basins).