

Cumulative flood elevations for Devils Lake for 2012–30, based on USGS stochastic model runs made Sept. 14, 2011.

| Year | *Cumulative exceedance probability, in percent | | | | | | |
|------|---|-----------|-----------|-----------|----------|----------|----------|
| | 90 | 50 | 20 | 10 | 5 | 2 | 1 |
| 2012 | 1454.1 | 1454.8 | 1455.9 | 1456.8 | 1457.6 | 1458.6 | 1459.3 |
| 2013 | 1454.1 | 1455.0 | 1456.3 | 1457.5 | 1458.7 | 1459.8 | 1460.5 |
| 2014 | 1454.2 | 1455.0 | 1456.6 | 1457.9 | 1459.2 | 1460.3 | 1461.1 |
| 2015 | 1454.2 | 1455.1 | 1456.7 | 1458.1 | 1459.3 | 1460.4 | 1461.2 |
| 2016 | 1454.2 | 1455.1 | 1456.8 | 1458.3 | 1459.4 | 1460.5 | 1461.3 |
| 2017 | 1454.2 | 1455.1 | 1456.9 | 1458.4 | 1459.5 | 1460.6 | 1461.4 |
| 2018 | 1454.2 | 1455.1 | 1456.9 | 1458.5 | 1459.5 | 1460.6 | 1461.4 |
| 2019 | 1454.2 | 1455.1 | 1456.9 | 1458.6 | 1459.6 | 1460.7 | 1461.4 |
| 2020 | 1454.2 | 1455.1 | 1457.0 | 1458.6 | 1459.6 | 1460.8 | 1461.5 |
| 2025 | 1454.2 | 1455.2 | 1457.1 | 1458.8 | 1459.7 | 1460.9 | 1461.6 |
| 2030 | 1454.2 | 1455.2 | 1457.2 | 1458.9 | 1459.7 | 1461.0 | 1461.7 |

*Cumulative exceedance probability is the percent chance of exceeding a given lake level anytime during or before the specified year

Initial conditions for model runs:

Lake level on Sept. 13, 2010: 1,453.8

Estimated inflow to the lake, Sept. 2010: 5,400 acre-feet

Above normal precipitation assumed for October 2011 through March 2012

Based on Devils Lake stochastic simulation model described in USGS Scientific Investigations Report 2011–5050, “Simulation of Effects of Devils Lake Outlet Alternatives on Future Lake Levels and Downstream Water Quality in the Sheyenne River and Red River of the North” (<http://pubs.usgs.gov/sir/2011/5050/>)

NOTE – Assumptions regarding State outlet:

- 1) Outlet capacity 250 cubic feet per second from existing west-end outlet; additional 350 cubic feet per second from outlet being constructed from East Devils Lake (starting June 1, 2012).
- 2) Operating constraints: 800 cfs channel capacity and 750 mg/L sulfate concentration in the upper Sheyenne River, 750 mg/L sulfate concentration for outflow from Lake Ashtabula.
- 3) Operating window April 1 to November 30

U.S. Geological Survey
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