

RED LAKE DAM WATER CONTROL MANUAL UPDATE

Public Open House
November 2023



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We are here to:

share about the Corps effort to update the Red Lake Water
Control Manual
AND
listen to your ideas for Red Lake operations



This presentation is also
streaming on YouTube



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RED LAKE RESERVOIR PROJECT

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- **Main Purposes**
Flood Control
- **Secondary Purposes**
Water Supply
Pollution Abatement





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WHAT IS A WATER CONTROL MANUAL?

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The water control manual dictates how the Corps manages the water at the project under various conditions

→ Corps staff cannot deviate from the manual unless it is an emergency **or** higher-level approvals have been received



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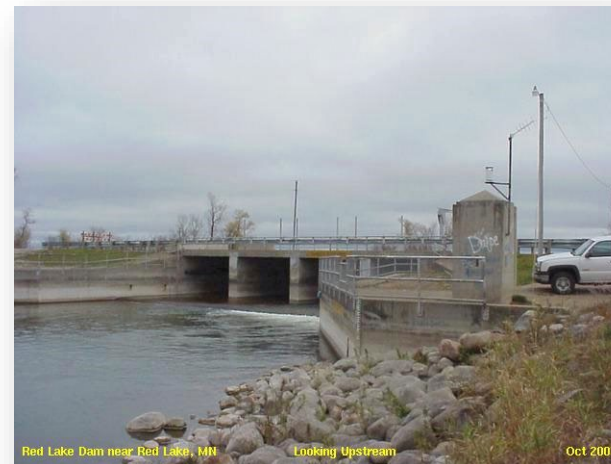


RED LAKE DAM GENERAL OPERATION:

CURRENT MANUAL

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- **Summer:** Maintain conservation/normal pool level of 1174.0. During low-water periods the reservoir is operated to supplement natural flows to meet required flows at critical points downstream
- **Fall/Winter:** Drawdown to 1173.5'
- **Spring:** Red Lake is managed to minimize downstream flooding and maintain conservation/normal pool level of 1174.0. Downstream channel capacity is 1000 cfs. Maximum regulated stage control points at High Landing < 8.75', and Crookston < 18.0'.





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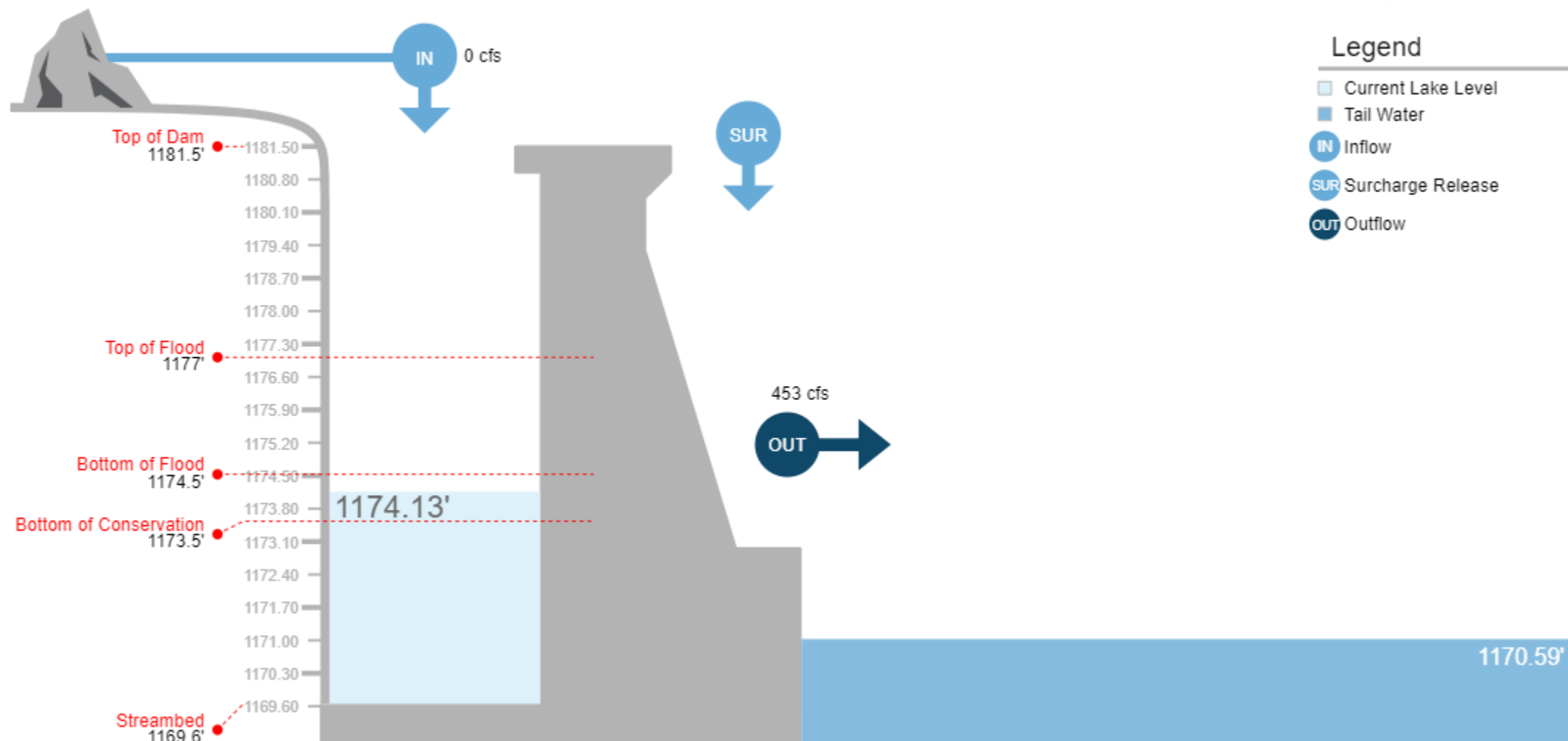
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NORMAL OPERATIONS- *CURRENT MANUAL*

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Red Lake Dam near Red Lake, MN 6-Nov-2023 17:30:00





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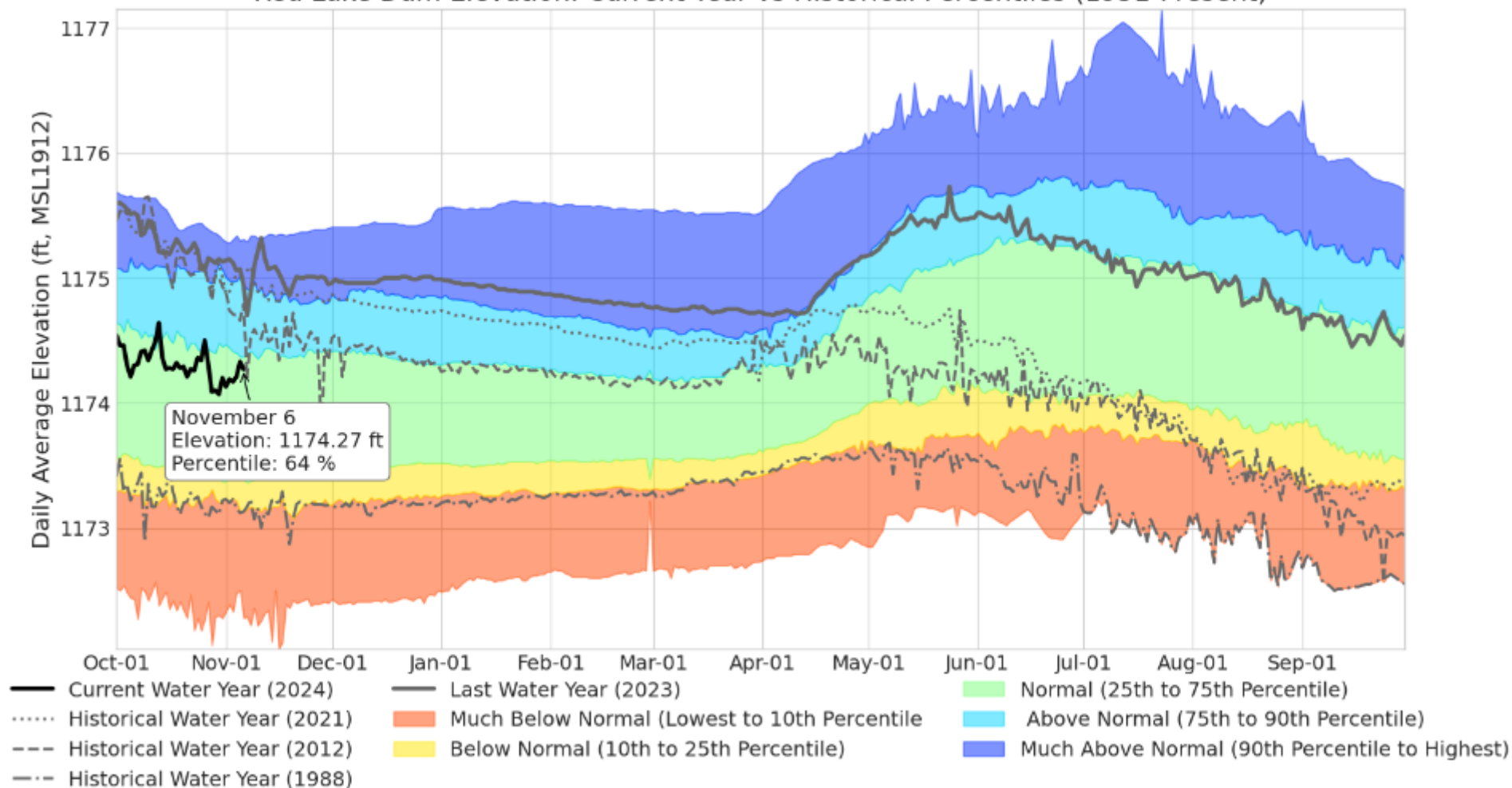
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HISTORICAL LAKE LEVELS

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Red Lake Dam Elevation: Current Year vs Historical Percentiles (1951-Present)





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ENVIRONMENTAL POSITIVES – RED LAKE

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- Fish and Wildlife
 - Productive sport fishery
 - White-tailed deer
 - Black bear
 - Waterfowl
 - Ruffed grouse
 - Migratory birds
- Unique Habitat Types
 - Wetlands
 - Zah Gheeng
 - Peat Bogs
 - Red Lake Peatland
 - Forests
 - Pine Island State Forest
 - Lost River State Forest



Photo credit: Minnesota DNR



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ENVIRONMENTAL IMPAIRMENTS - RED LAKE

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- Wind/wave action
 - High turbidity
 - Low light penetration
 - Shoreline erosion
- Minor to moderate algae levels
 - Elevated total phosphorus
 - Elevated chlorophyll-a
- Impaired tributary inputs
 - E.coli
 - Low dissolved oxygen
 - Total suspended solids
- Invasive Species
 - Starry Stonewort





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ENVIRONMENTAL POSITIVES – RED LAKE RIVER

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- Relatively good water quality
- Surrounding wetlands in early portions
- Natural meanders past channelization
 - Riffles and pools
- Many portions with good fishing
- Kayaking and other recreation



Photo credit: Corey Hanson, RLWD



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ENVIRONMENTAL IMPAIRMENTS - RED LAKE RIVER

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- Channelized stream portions
- Loss of physical connectivity
 - Fish passage obstructions (dams)
- Lack of base flow during droughts
- Poorly defined floodplain
- Wind and water erosion
- Some dissolved oxygen problems
- High turbidity





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ENDANGERED SPECIES

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Species	Status	Group
Northern Long-eared Bat	Endangered	Mammal
Tricolored Bat	Proposed	Mammal
Canadian Lynx	Threatened	Mammal
Gray Wolf	Threatened	Mammal
Monarch Butterfly	Candidate	Insect





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TIMELINE FOR WATER CONTROL MANUAL UPDATE

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NOW



Part 1: November to December 2023

- ☐ Collect and organize public comments

Part 1: January to September 2024

- ☐ Begin study of individual ideas

Part 2 of update (to be scheduled, pending funding)



- ☐ Study full alternatives
- ☐ Second set of public meetings and comment period on alternative operating plans



Part 3 of update (to be scheduled, pending funding)

- ☐ Final set public/agency outreach and comment period on recommended plan
- ☐ Approval of plan and approval of updated Water Control Manual



Opportunities for agency & public input



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HOW TO SHARE INPUT

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Share comments by 15 Dec 2023:

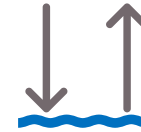
1. **Written** in open house session
2. **Electronically** to

RedLake@usace.army.mil

An updated water control manual could address:



Lake sedimentation



Changes to normal pool
elevation (higher or lower)



Changes to outflow from dam



Modifications for
environmental benefits



Other ideas?



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FINDING ADDITIONAL INFO

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UPDATED GAGE DATA:

https://www.mvp-wc.usace.army.mil/reports/RedLake_Dam.Report.shtml



US Army Corps of Engineers
St. Paul District

Water Management

Date : Tue, 07 Nov 2023 19:31:36 GMT

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Red Lake Dam

PHOTO



CURRENT VALUES

Parameter	Latest Value	Date
Lake at Waskish (ft) :	1173.93	07 Nov 2023, 18:30
Pool (ft) :	1174.31	07 Nov 2023, 18:30
Tailwater (ft) :	1170.55	07 Nov 2023, 18:30
Flow-Out (cfs) :	467	07 Nov 2023, 18:30

FORECAST

HISTORICAL LAKE ELEVATION

POOL ELEVATION

LAKE AT WASKISH

TAILWATER ELEVATION

FLOW-OUT

FLOW-IN

Graph of Water Levels

ELEVATIONS

FLows

Water Control Manual
available on national website:
water.usace.army.mil



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PUBLIC INPUT

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It's time to **listen** to your ideas
for Red Lake operations



What issues or
resources
should be
studied?

What do you
want to stay
the same or
change?

What potential
water
management
options for Red
Lake should be
considered?