White Bear Lake Area Comprehensive Plan Amended Study 1

Redirect Stormwater to Augment White Bear Lake (Initial Evaluation)

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METROPOLITAN COUNCIL

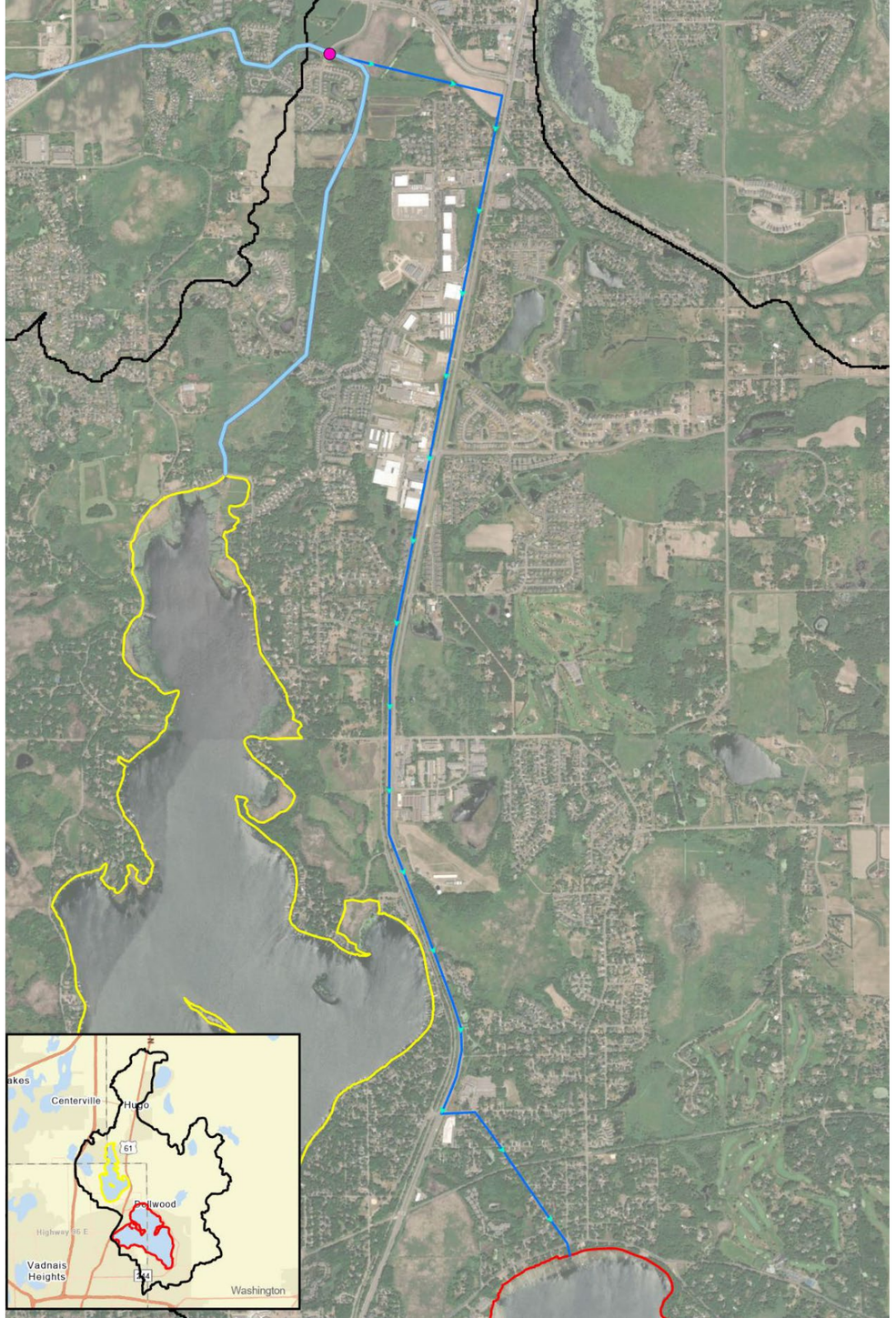
April 2, 2026

Previous Study - Recap

- Existing stormwater ponds & volume calculations
- Potential challenges, issues, concerns with redirecting stormwater to the lake
  - Pumping and routing/distribution
  - Stormwater contaminants
  - Dry weather considerations
  - Property value impacts

Scope of Study - Amendment

- Review surface water sources for White Bear Lake augmentation:
  - Bald Eagle Lake
  - Ramsey/Washington Counties Ditch 1
  - Areas of City of Grant
  - Centerville Lake
- Identify potential challenges, issues, concerns with redirecting surface water sources to the lake
- Initial water quality results – Centerville Lake



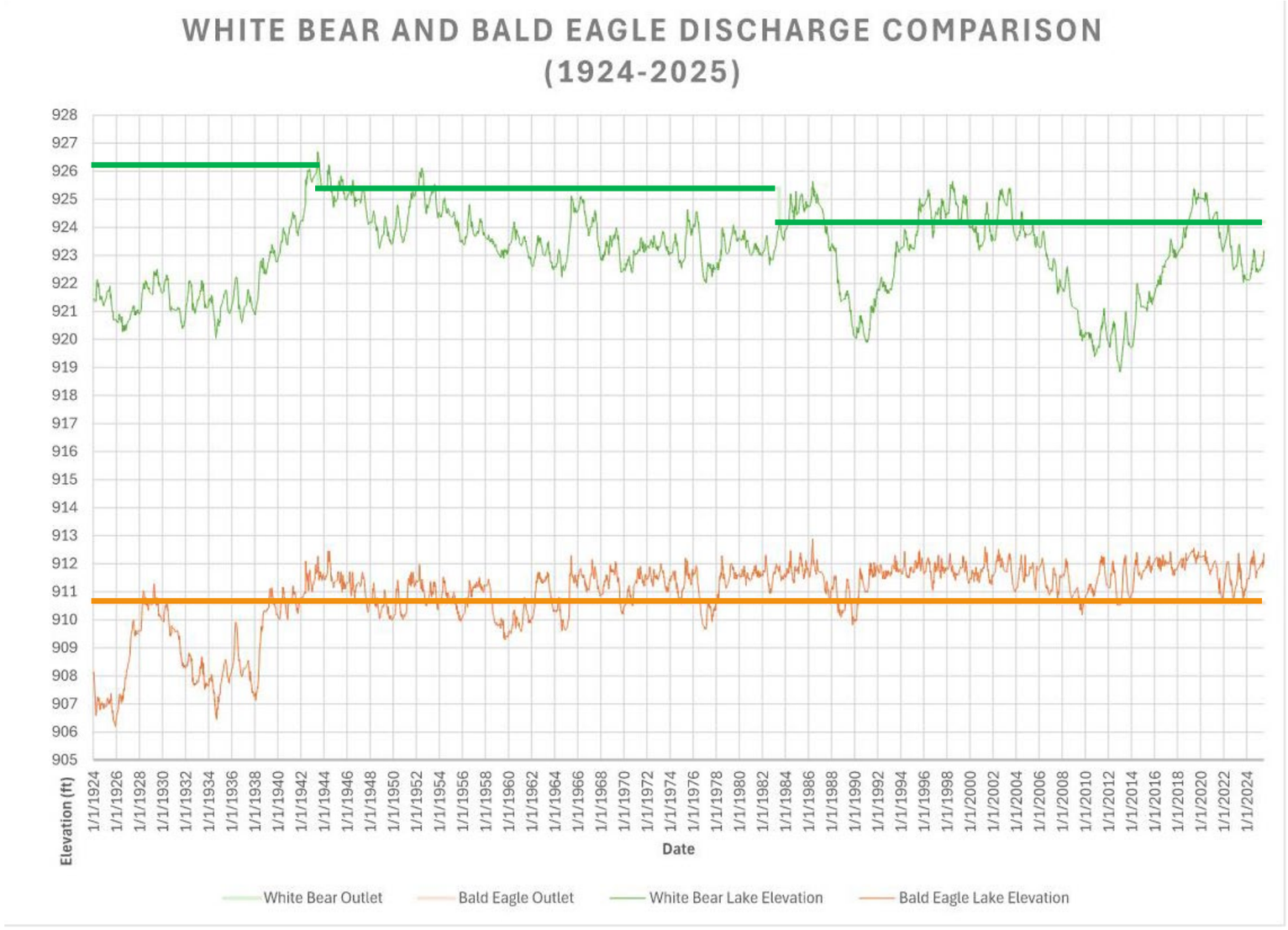
Bald Eagle Lake

- Hydraulically independent
- Possible pump station: Clearwater Creek at Oneka Parkway
- Forcemain route: 5.0 miles

Legend

- White Bear Lake
- Bald Eagle Lake
- Contributing Area
- Possible Force Main
- Possible Pump Station
- ClearwaterCreek

Historical Level – 1924-2025
Bald Eagle Lake and White Bear Lake

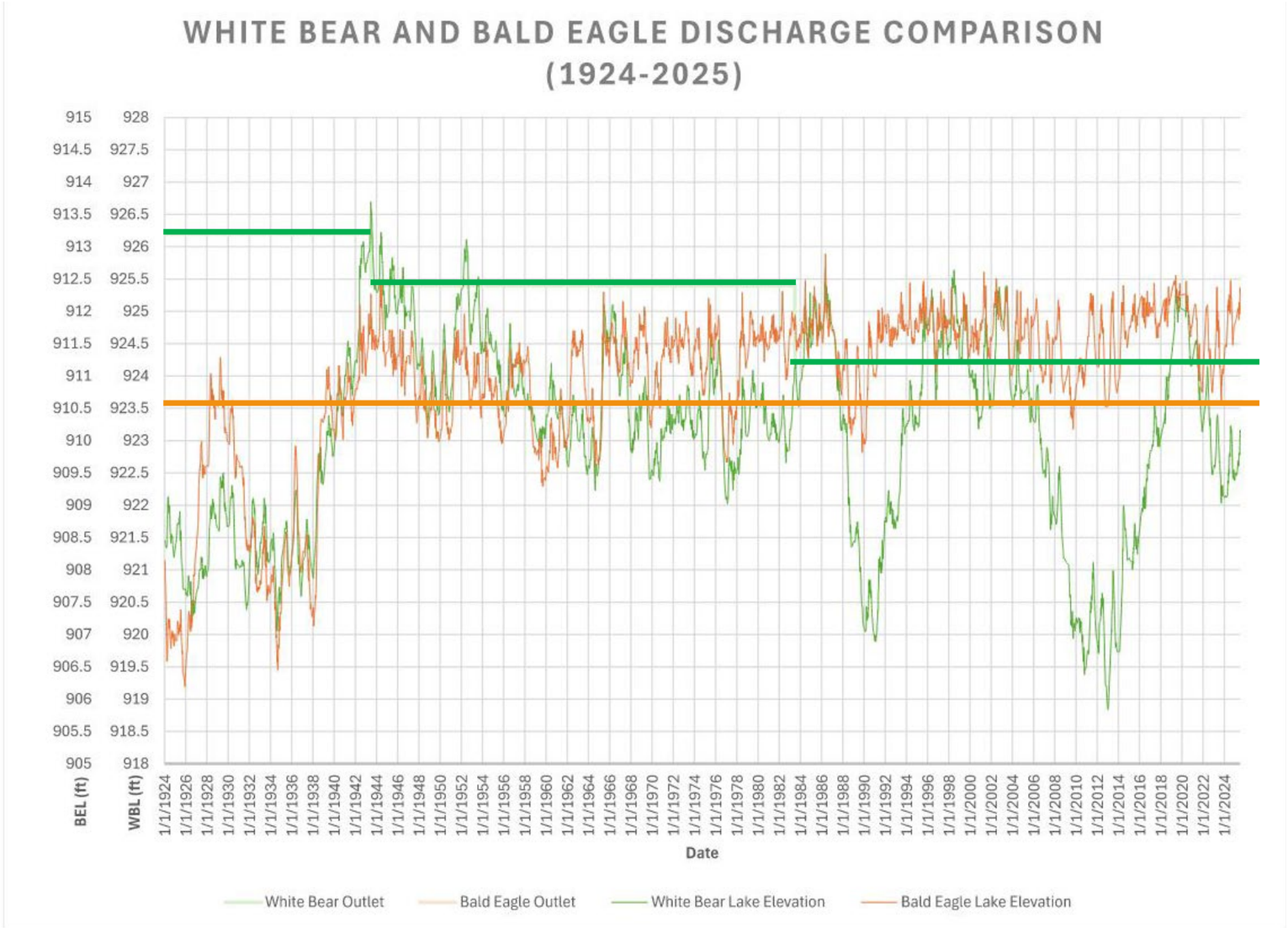


White Bear Lake (NAVD88)

Bald Eagle Lake (NAVD88)

Metropolitan Council

Historical Level – 1924-2025
Bald Eagle Lake and White Bear Lake (continued)



White Bear Lake (NAVD88)

Bald Eagle Lake (NAVD88)

Double Y-Axis

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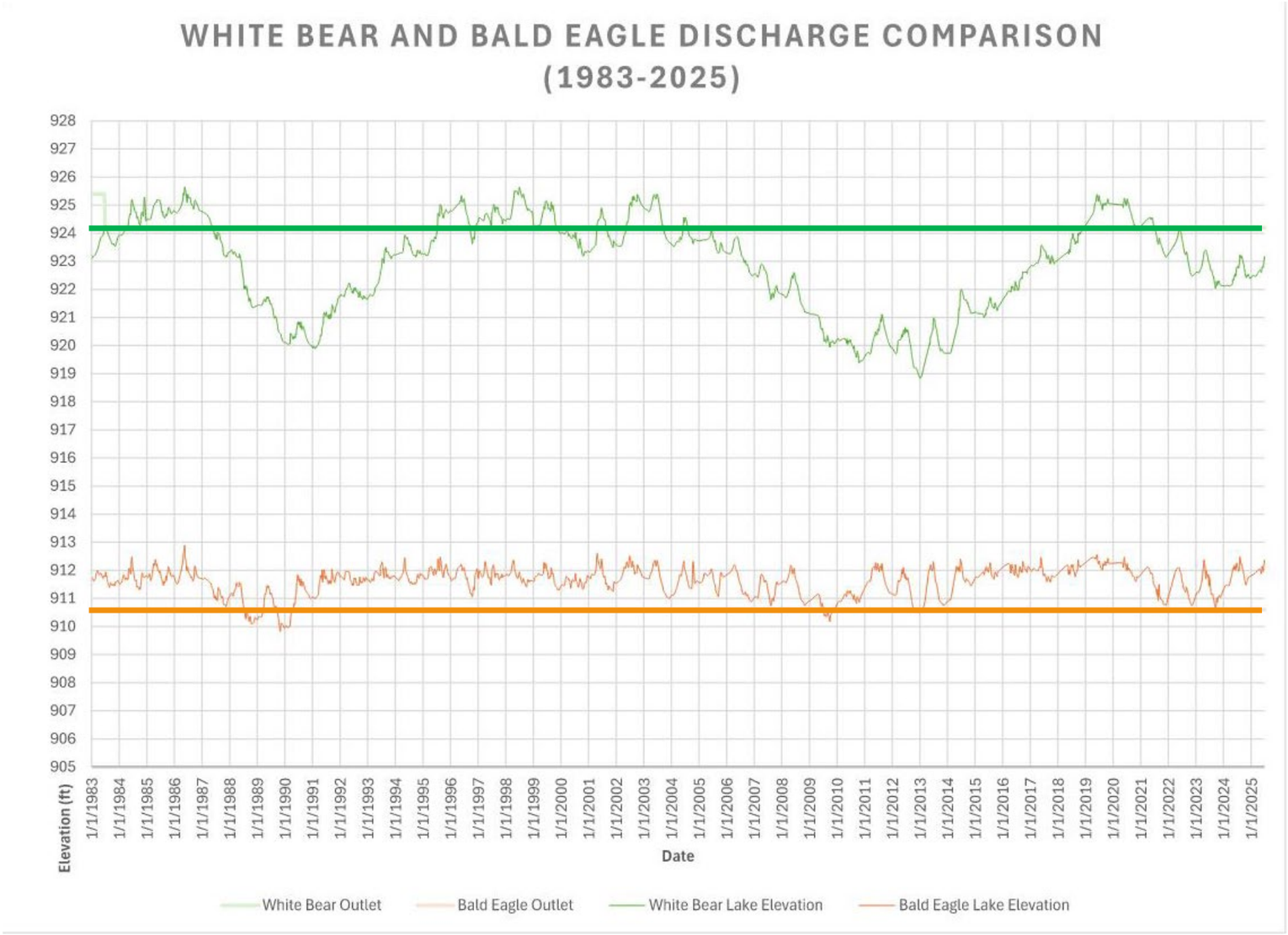
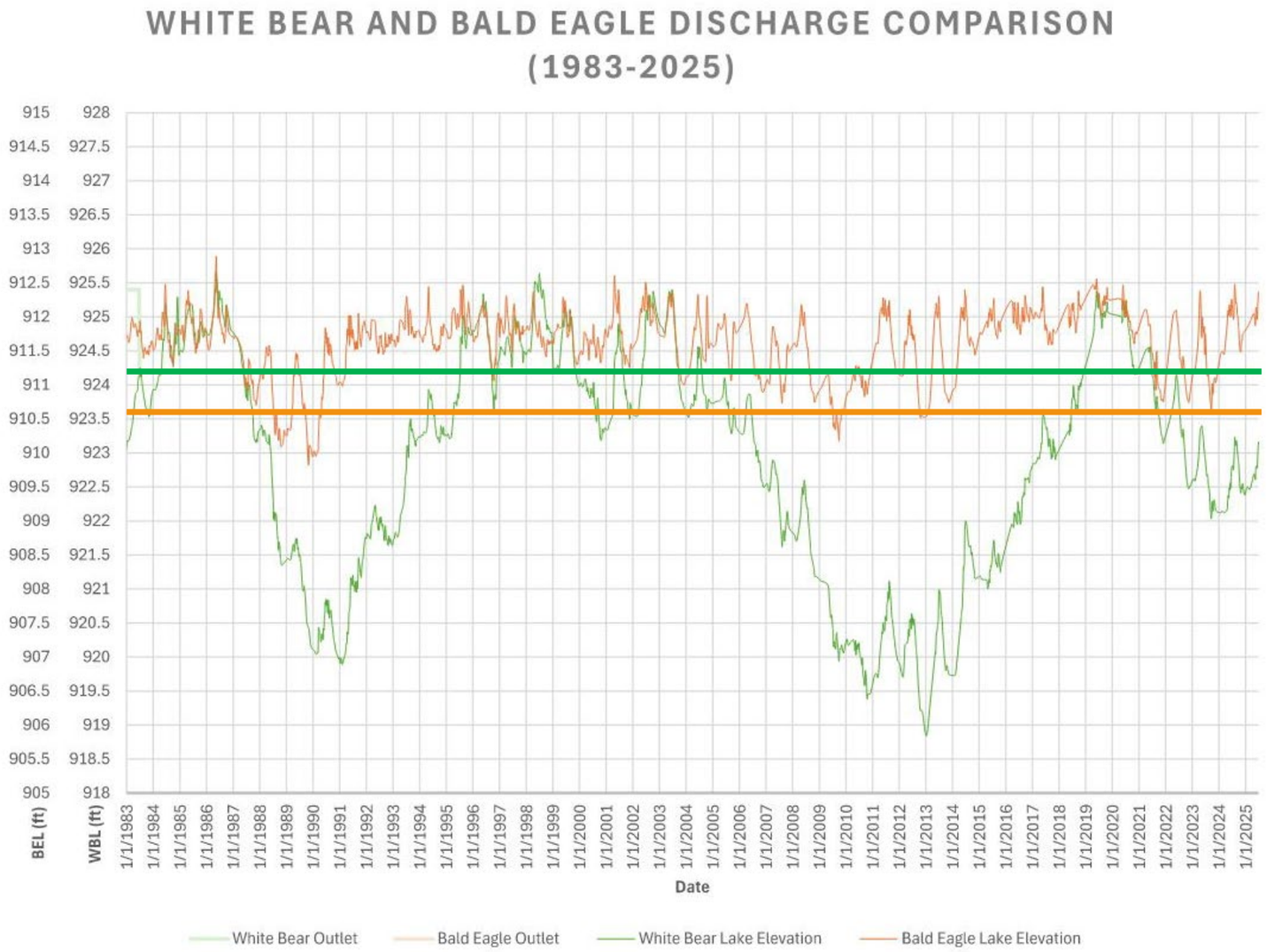
Historical Level – 1983-2025
Bald Eagle Lake and White Bear Lake



White Bear Lake (NAVD88)

Bald Eagle Lake (NAVD88)

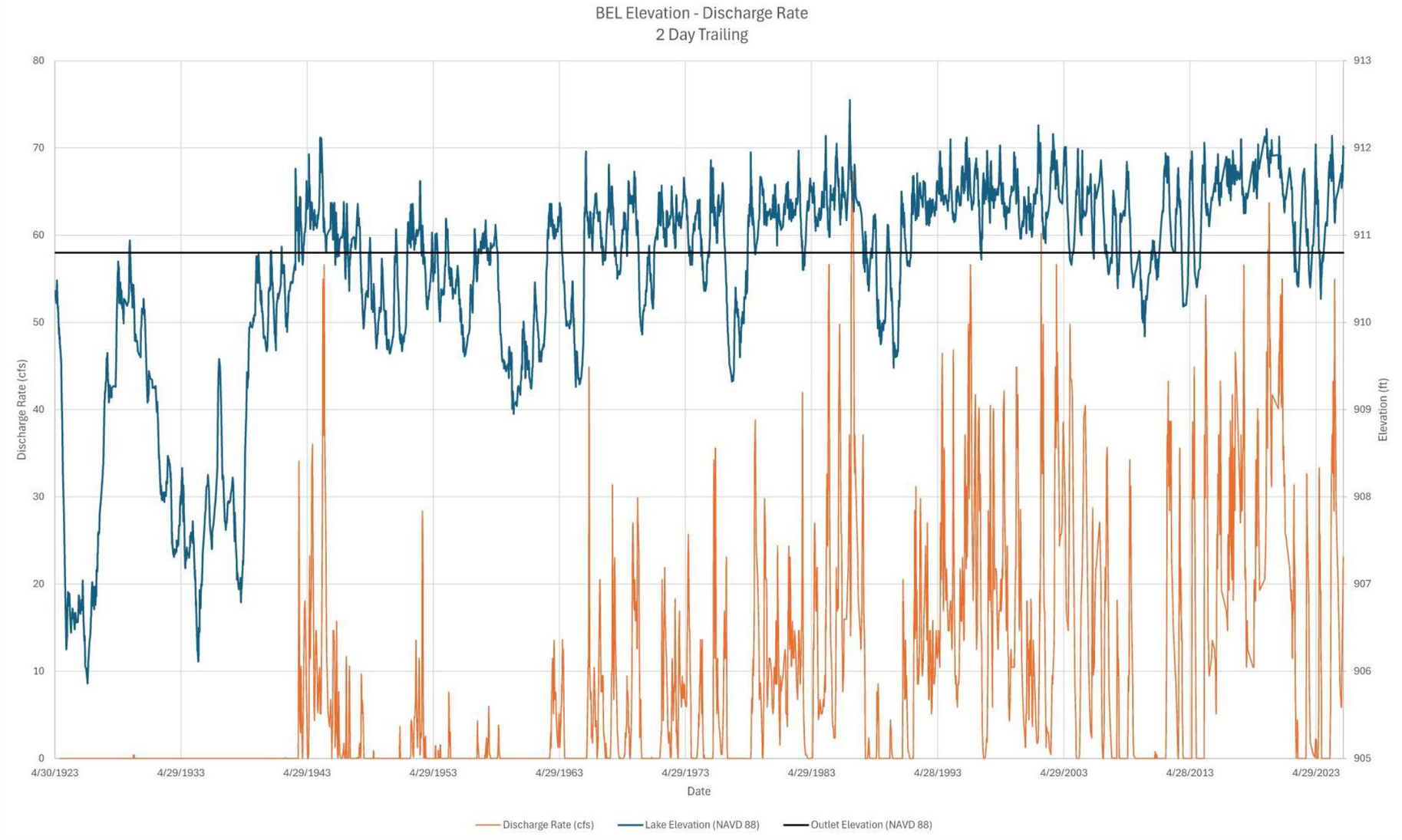
Historical Level – 1983-2025
Bald Eagle Lake and White Bear Lake (continued)



White Bear Lake (NAVD88)

Bald Eagle Lake (NAVD88)

Historical Discharge – 1924-2025
Bald Eagle Lake



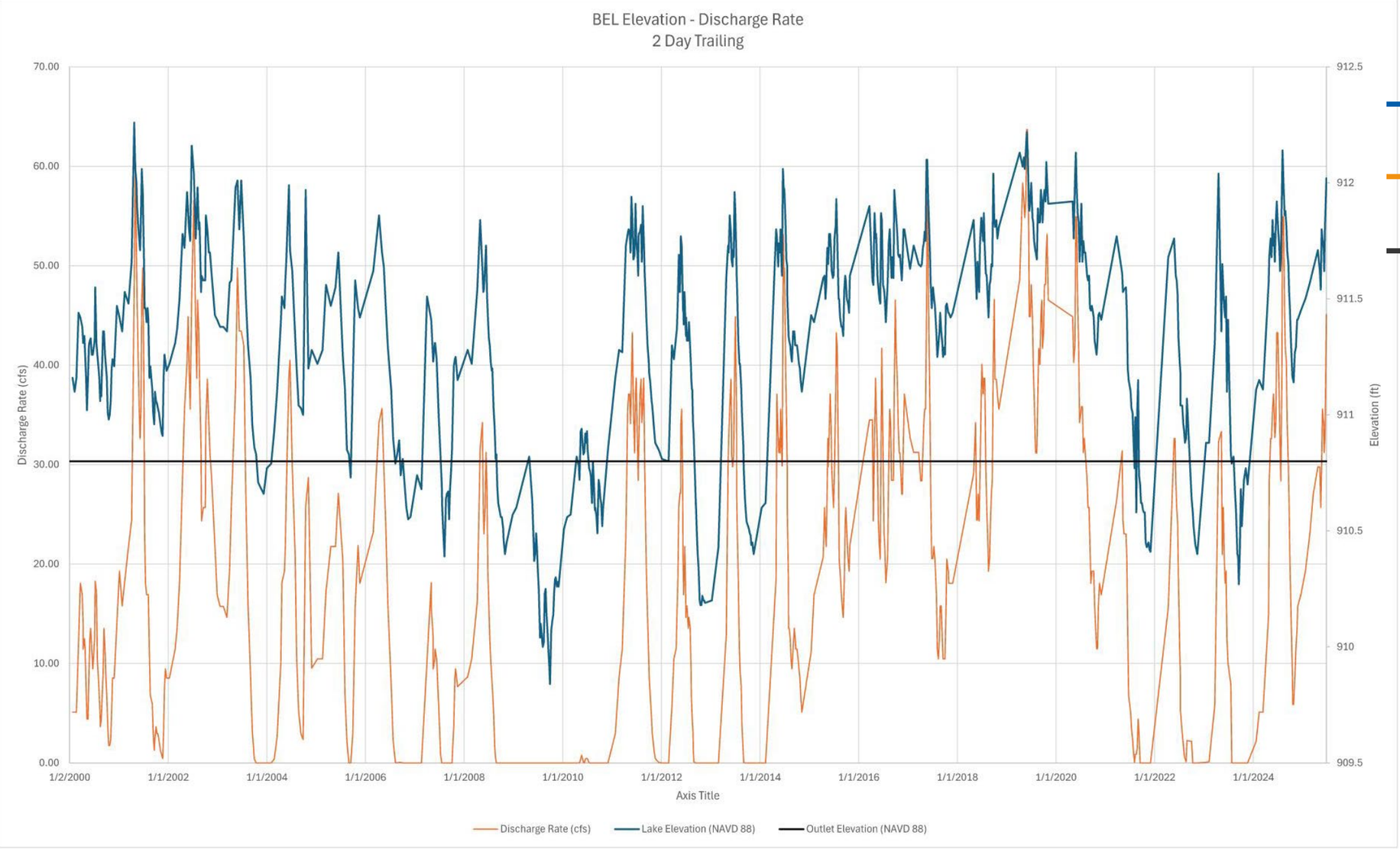
Lake Elevation (NAVD88

Discharge Rate (CFS)

Outlet Elevation (NAVD88)

Metropolitan Council

Historical Discharge – 2000-2025
Bald Eagle Lake



Lake Elevation (NAVD88

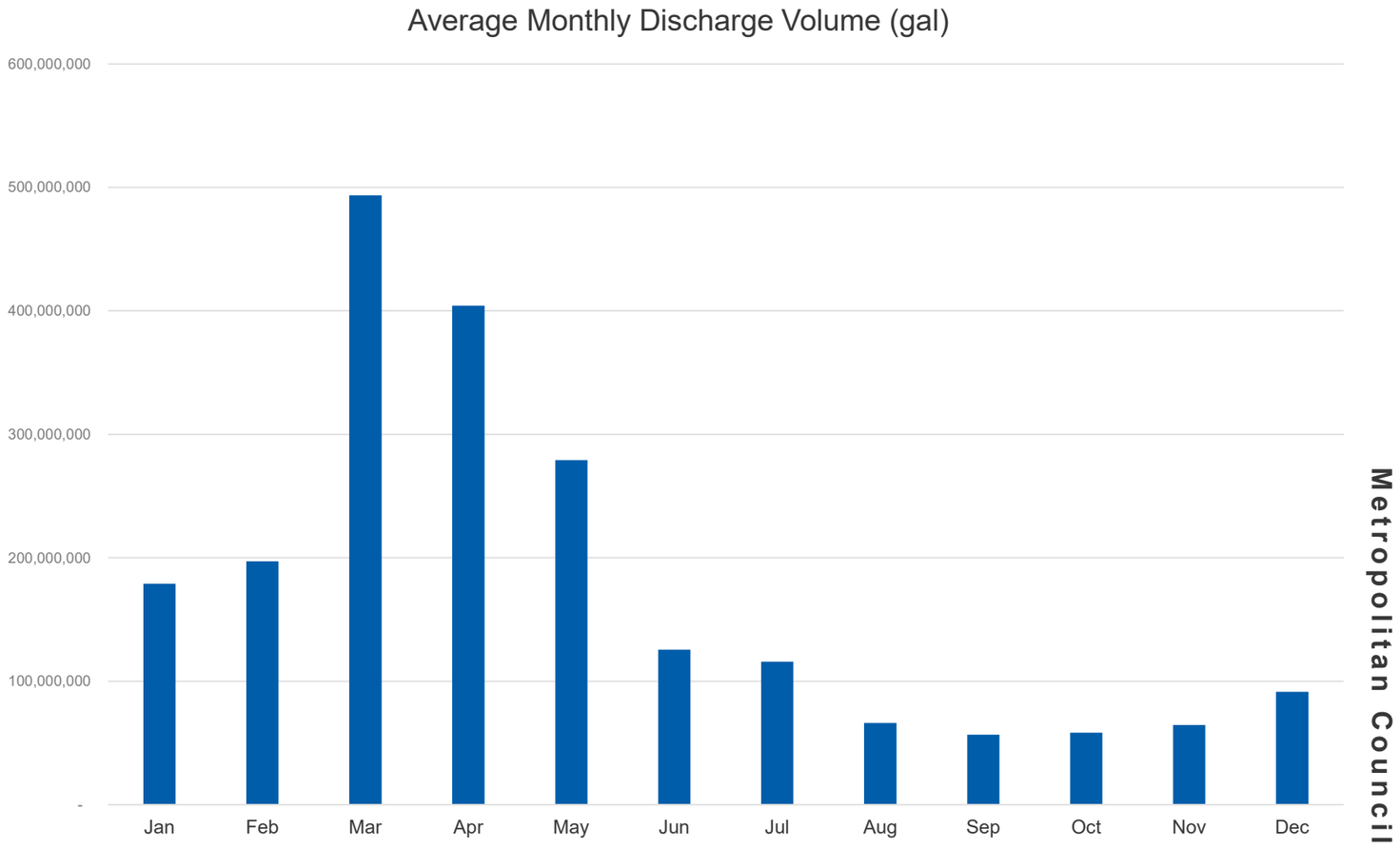
Discharge Rate (CFS)

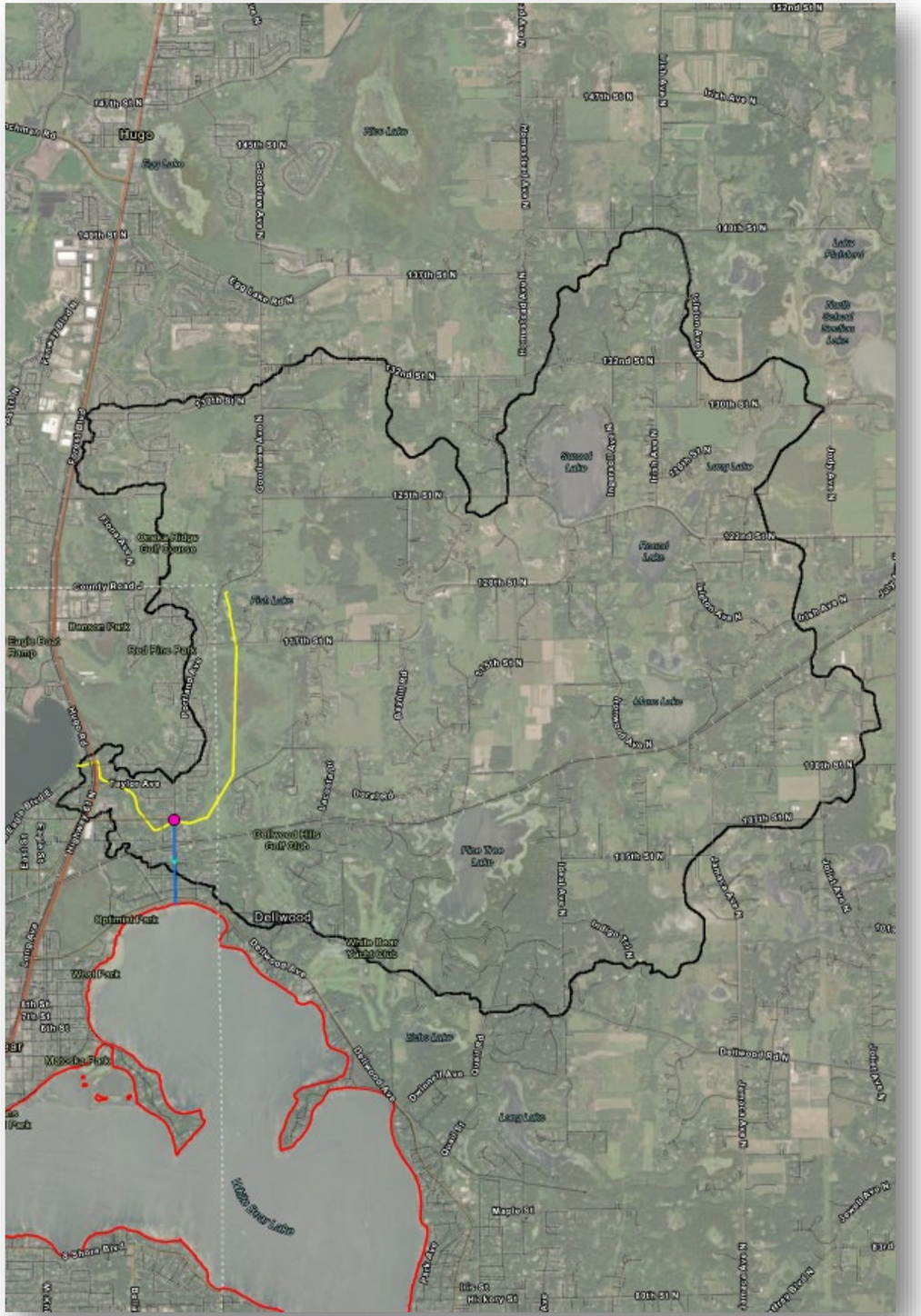
Outlet Elevation (NAVD88)

Metropolitan Council

Historical Discharge Volumes – 2000-2025 Bald Eagle Lake

Month	Million Gallons	Acre-Feet
January	179	549.4
February	197	604.9
March	493	1,515.1
April	404	1,240.3
May	279	856.4
June	125	385.2
July	115	355.4
August	66	203.2
September	56	174.3
October	58	179.0
November	64	197.9
December	91	280.8
Yearly Total	2,131	6,541.9



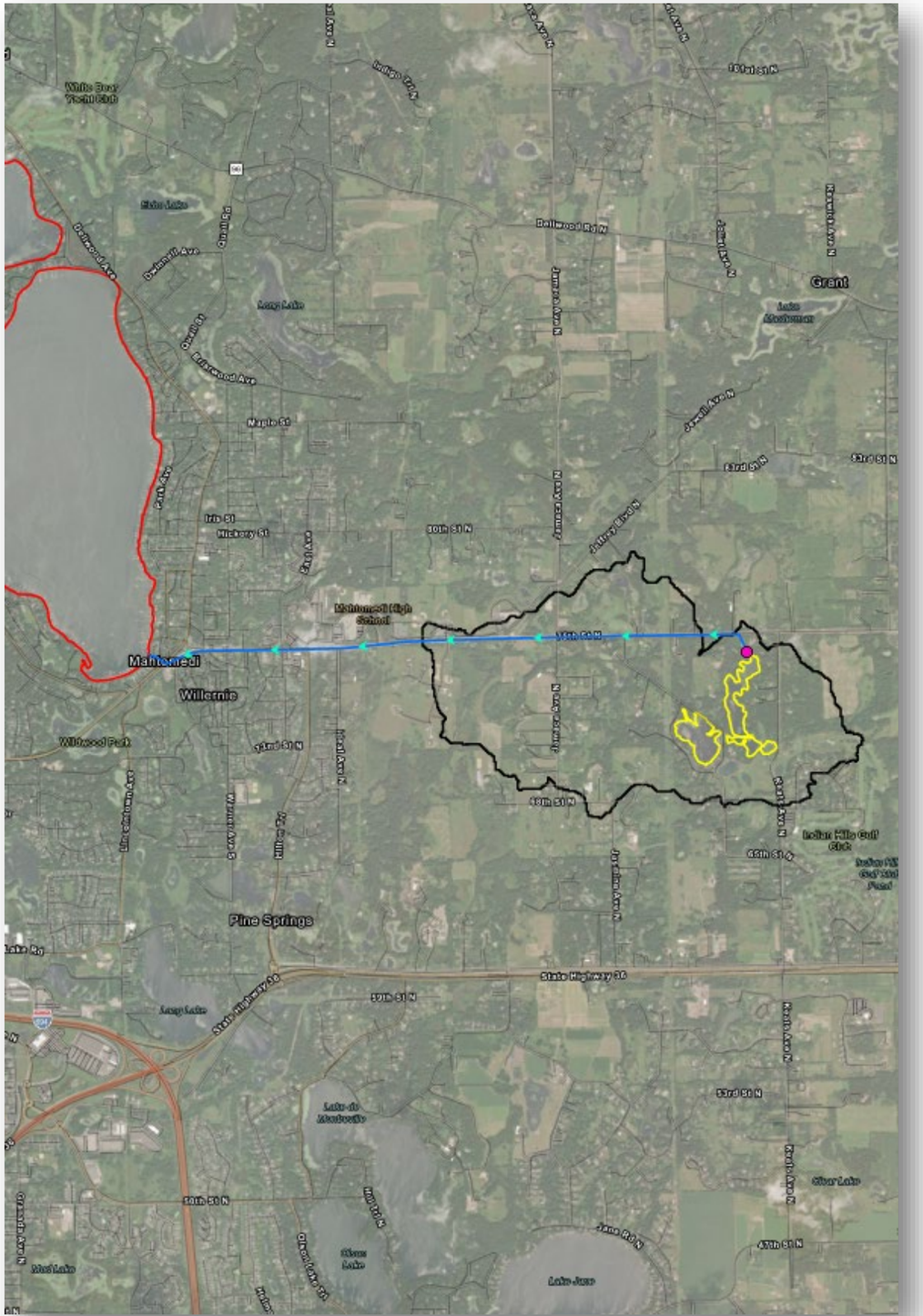


Ramsey/Washington Counties – Ditch 1

- Neighboring watersheds
- Retention basin to capture excess flow
- Possible pump station: Near Portland Avenue
- Forcemain route: 0.5 miles

Legend

- White Bear Lake
- Contributing Area
- Ramsey/Washington Counties Ditch 1
- Possible Force Main
- Possible Pump Station

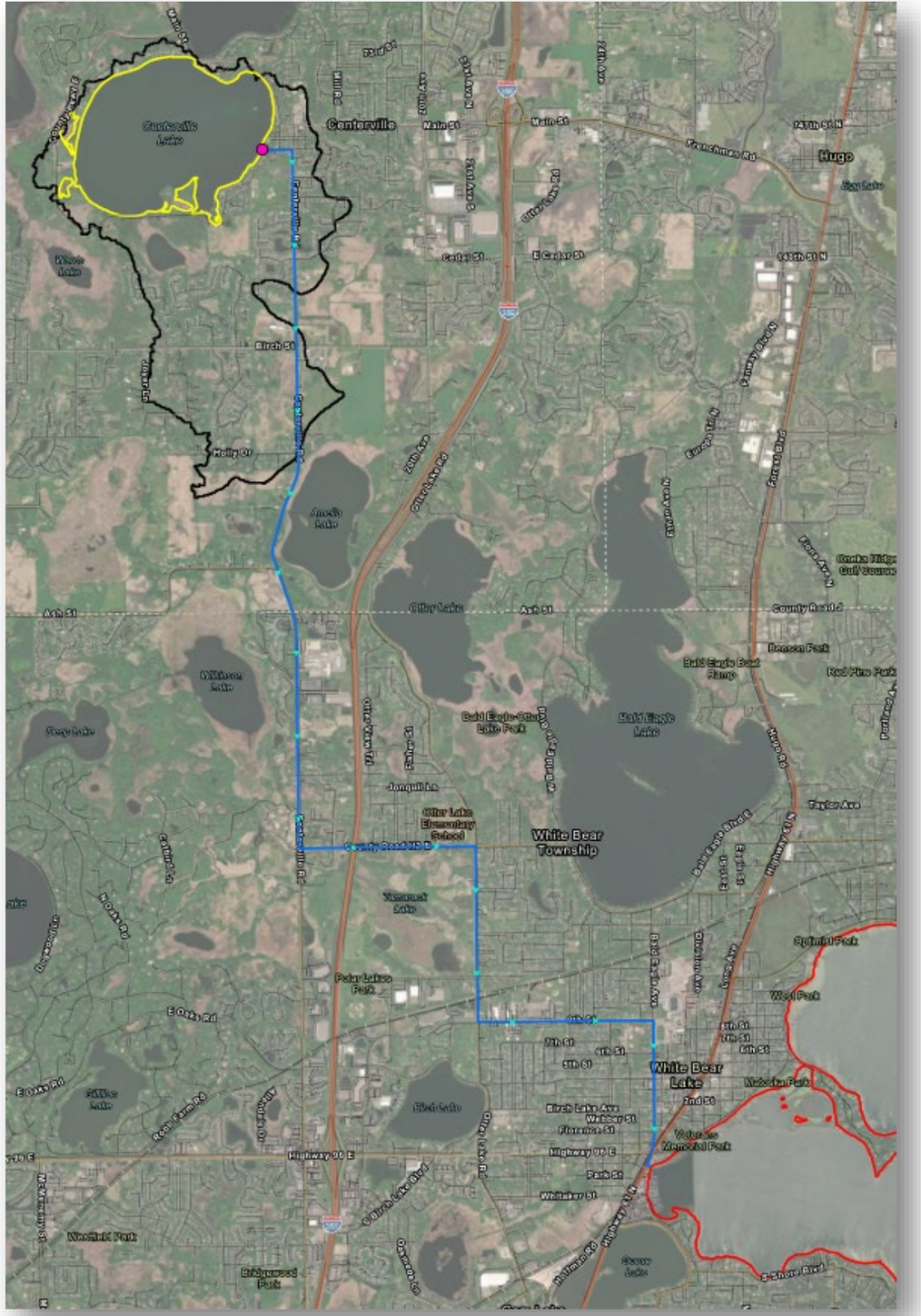


Areas of Grant

- Valley Branch Watershed District
- Existing FEMA Floodplain
- Possible pump station: near Keats Avenue
- Forcemain route: 2.8 miles

Legend

- Areas of Grant
- Contributing Area
- White Bear Lake
- Possible Force Main
- Possible Pump Station



Centerville Lake

- Previously used as drinking water supply source
- Modifications to outlet
- Possible pump station: Heritage Street
- Forcemain route: 8.0 miles

RCWD Board Motion

Following review of background data provided by District Staff, the Board was supportive of *investigating* surface water level augmentation on White Bear Lake but not at the detriment of other surface water sources and the Board does not necessarily see “excess” water at the surface water sources that were previously presented.

Centerville Lake Water Quality (1/3)

- Basic water quality parameters were analyzed from samples obtained from Centerville Lake in September/October to compare to the water quality for Sucker Lake and White Bear Lake.
- Primary and secondary drinking water parameters are also being analyzed and will be compared. Lab results should be available later this month.

Centerville Lake Water Quality (2/3)

Parameter	Sucker Lake Concentration (mg/L)	Units	Centerville Lake Concentration (mg/L)	Units	White Bear Lake Concentration (mg/L)	Units
Chloride	30.6	mg/L	46.1	mg/L	57.7	mg/L
Chlorophyll	33.7	ug/L	29.1	ug/L	7.5	ug/L
Total Nitrogen	0.84	mg/L	0.93	mg/L	0.63	mg/L
Total Phosphorus	0.059	mg/L	0.038	mg/L	0.025	mg/L
Dissolved Organic Carbon	9.2	mg/L	6.8	mg/L	4.8	mg/L
Total Organic Carbon	9.4	mg/L	6.4	mg/L	4.2	mg/L
Turbidity	1.3	NTU	11.8	NTU	3.2	NTU
Total Coliform Bacteria	2,420	MNP/100 ML	1,046	MNP/100 ML	225	MNP/100 ML

- Sucker Lake will be evaluated as a potential surface water source to augment White Bear Lake. In comparison, Centerville Lake has approximately 50% more chloride as Sucker Lake and significantly more turbidity. Centerville Lake has lower total organic carbon and total coliform bacteria.

Centerville Lake Water Quality (3/3)

- In addition, the per- and polyfluoroalkyl (PFAS) substances of PFOA, PFHxA, and PFBA were detected in Centerville Lake at concentrations of 4.2 ng/L, 2.6 ng/L, and 34.6 ng/L, respectively. The PFOA concentration exceeds the EPA maximum contaminant level (MCL) of 4.0 ng/L for drinking water.
- A chlorine dioxide concentration of 0.33 mg/L was also detected in Centerville Lake although this concentration is below the EPA MCL concentration of 1.0 mg/L.

Study 1 Amendment 1 - Conclusions

- Drought conditions may impact other sources due to similar location to WBL
- Complex network of pumps, force mains and operational control systems
- Potential water quality issues by lower quality water being pumped into White Bear Lake
- Regulatory challenges to move water across watershed boundaries (Grant)
- Potential impacts to property values

Study 1 Amendment 1 – Possible Next Steps

- Review and analysis of water quality of Bald Eagle Lake and Ramsey/Washington Counties Ditch 1 to further determine feasibility and impacts on both the surface water sources and White Bear Lake.
- Review pump station siting at Coldwater Creek and routing of forcemain back to White Bear Lake.
- Review possible locations and sizing for retention basin along Ramsey/Washington Counties Ditch 1 to capture excess flow and provide additional pumping volume to White Bear Lake.
- Review impacts of reduced flow downstream to waterbodies due to pumping.

Questions