

Project Update: Badger Mill Creek Areawide Water Quality Management Plan Amendment (AWQMP) Approval

May 29, 2025

**Madison Metropolitan
Sewerage District**



Photo taken: October 2024 @STH 69, upstream

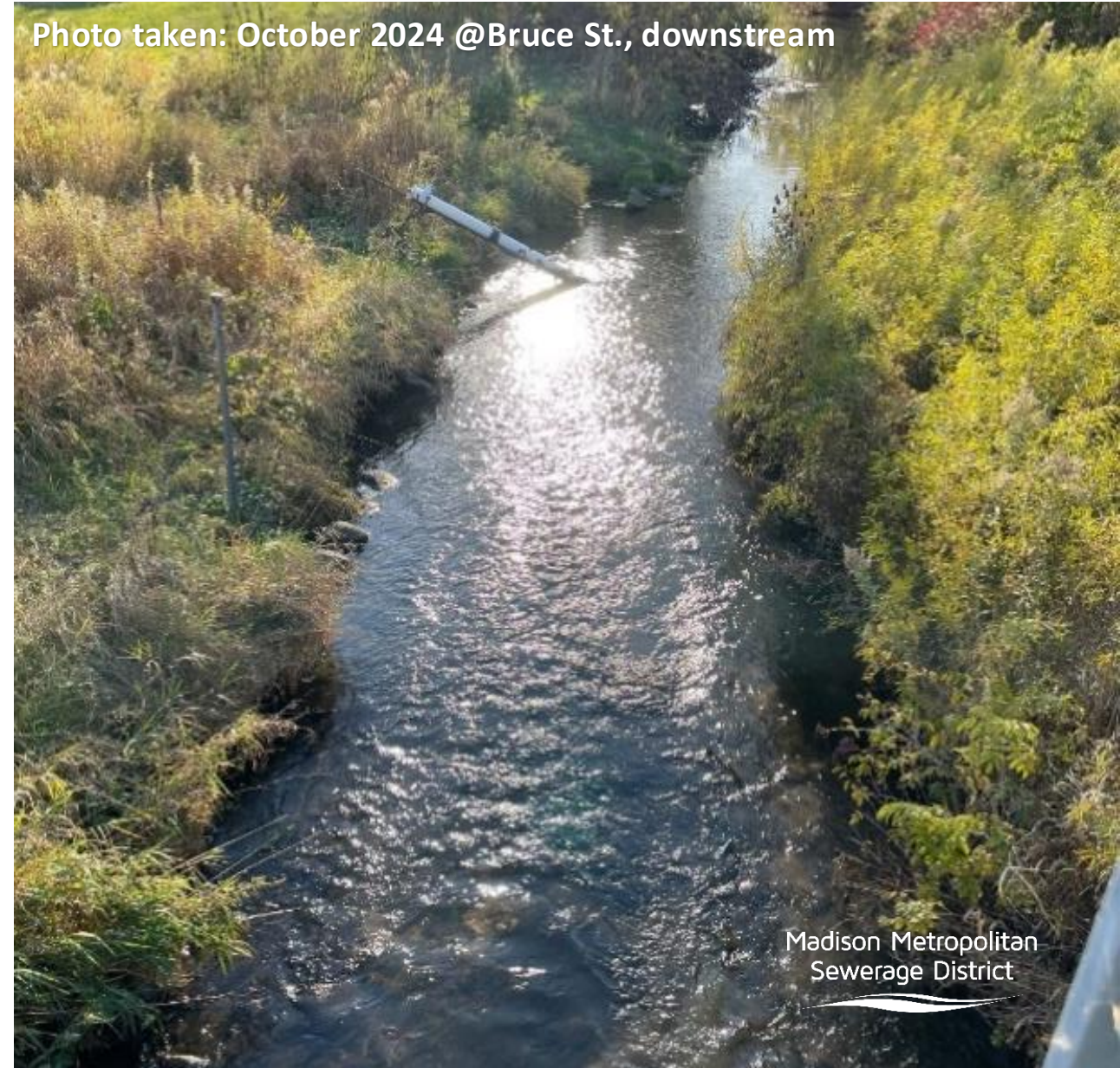
District response to excess phosphorus

- Achieve compliance with the most certainty
- Minimize harm to the stream
- Maintain fiscal responsibility to customer communities*

*Capital cost to *build* treatment:

Approximately \$24 million

Photo taken: October 2024 @Bruce St., downstream



Madison Metropolitan
Sewerage District

Compliance decision

- Discontinue effluent discharge at Badger Mill Creek
- Consolidate to a single outfall in Badfish Creek
- Provide \$1M for community-stakeholder supported projects for Badger Mill Creek

Photo taken: October 2024 @Lincoln St., downstream



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Sewerage District

District timeline



Photo taken: November 2024 @Hwy 69., downstream



Why we're here

To report on the additional dissolved oxygen data collection & modeling required as part of the AWQMP approval

Photo taken: November 2024 @Hwy PB., upstream

Madison Metropolitan
Sewerage District



An aerial photograph of a river winding through a landscape with green and brown vegetation. A large, semi-transparent blue rectangle is overlaid on the center of the image, containing white text.

Dissolved oxygen

An important water quality criteria essential for
aquatic life

Photo taken: November 2024 @Bruce St., downstream

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A stylized white logo consisting of a horizontal line with a wavy, wave-like shape above it, positioned below the text.

Data collection & modeling

· DO Concentrations at RM = 2.5 miles for Various Initial DO Concentrations

(Initial Stream Dimensions)

	Initial DO 5 mg/L	Initial DO 6 mg/L	Initial DO 8 mg/L	Initial DO 9 mg/L
River Only	7.65 mg/L	7.67 mg/L	7.70 mg/L	7.72 mg/L
River + Source	6.78 mg/L	6.78 mg/L	6.78 mg/L	6.78 mg/L

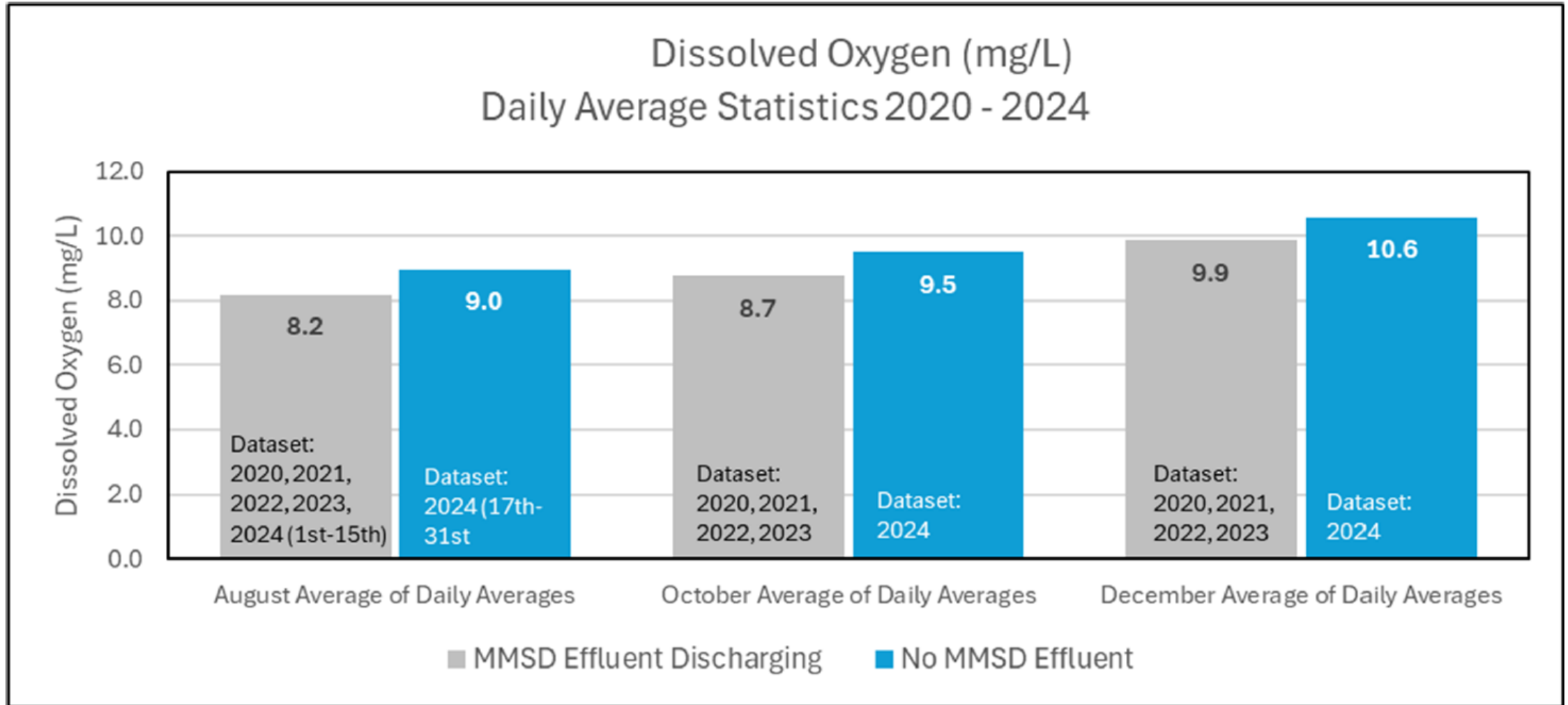
DO Concentrations at RM = 2.5 miles for Various Initial DO Concentrations

(Half Stream Dimensions)

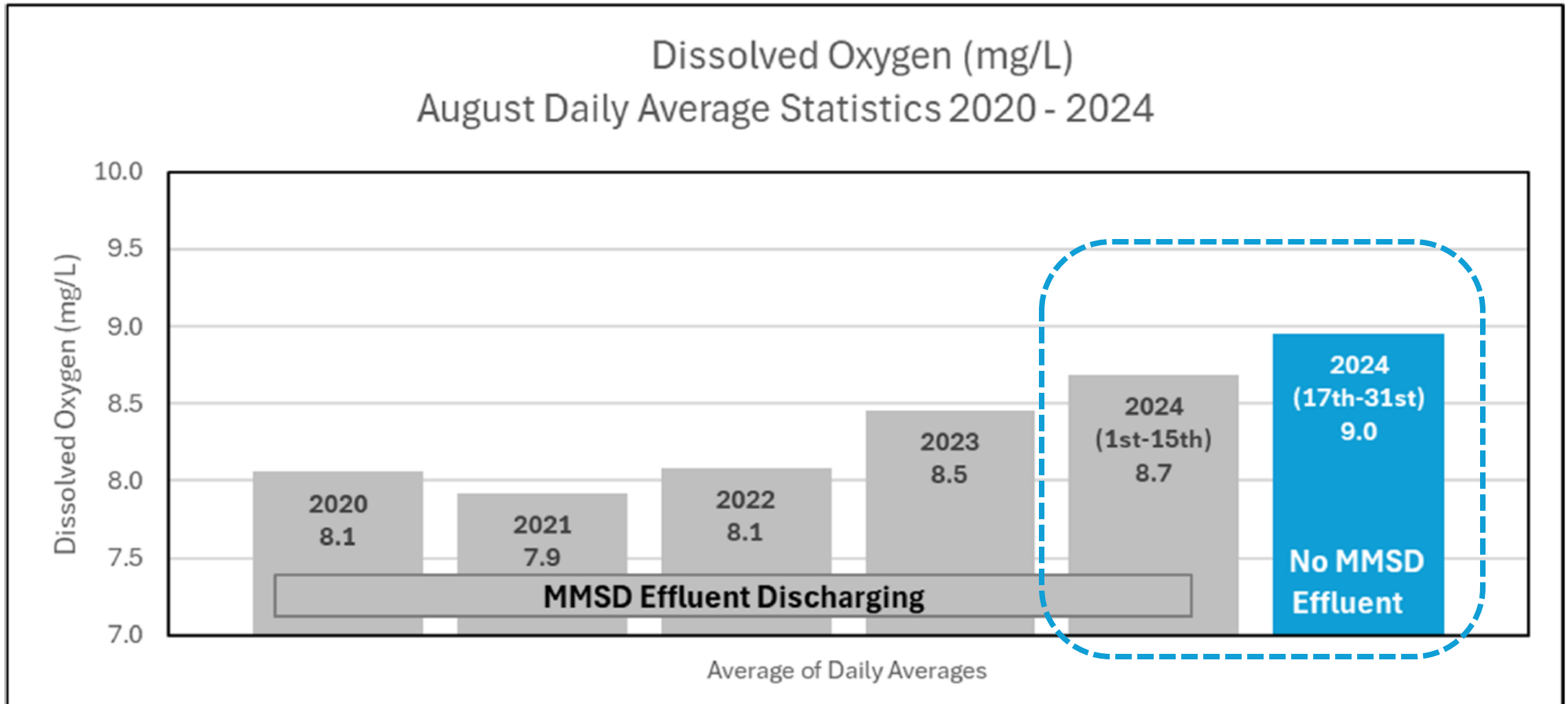
	Initial DO 5 mg/L	Initial DO 6 mg/L	Initial DO 8 mg/L	Initial DO 9 mg/L
River Only	8.64 mg/L	8.64 mg/L	8.64 mg/L	8.64 mg/L
River + Source	8.30 mg/L	8.30 mg/L	8.30 mg/L	8.30 mg/L



Data collection & modeling



Data collection & modeling



Conclusions

- What we measure in the stream is what the model predicts
- **Dissolved oxygen** concentrations are **higher** in the stream when there is **no District effluent**

Photo taken: December 2024 @Hwy PB, downstream





Photo taken: December 2024 @Lincoln St., upstream

Next steps

