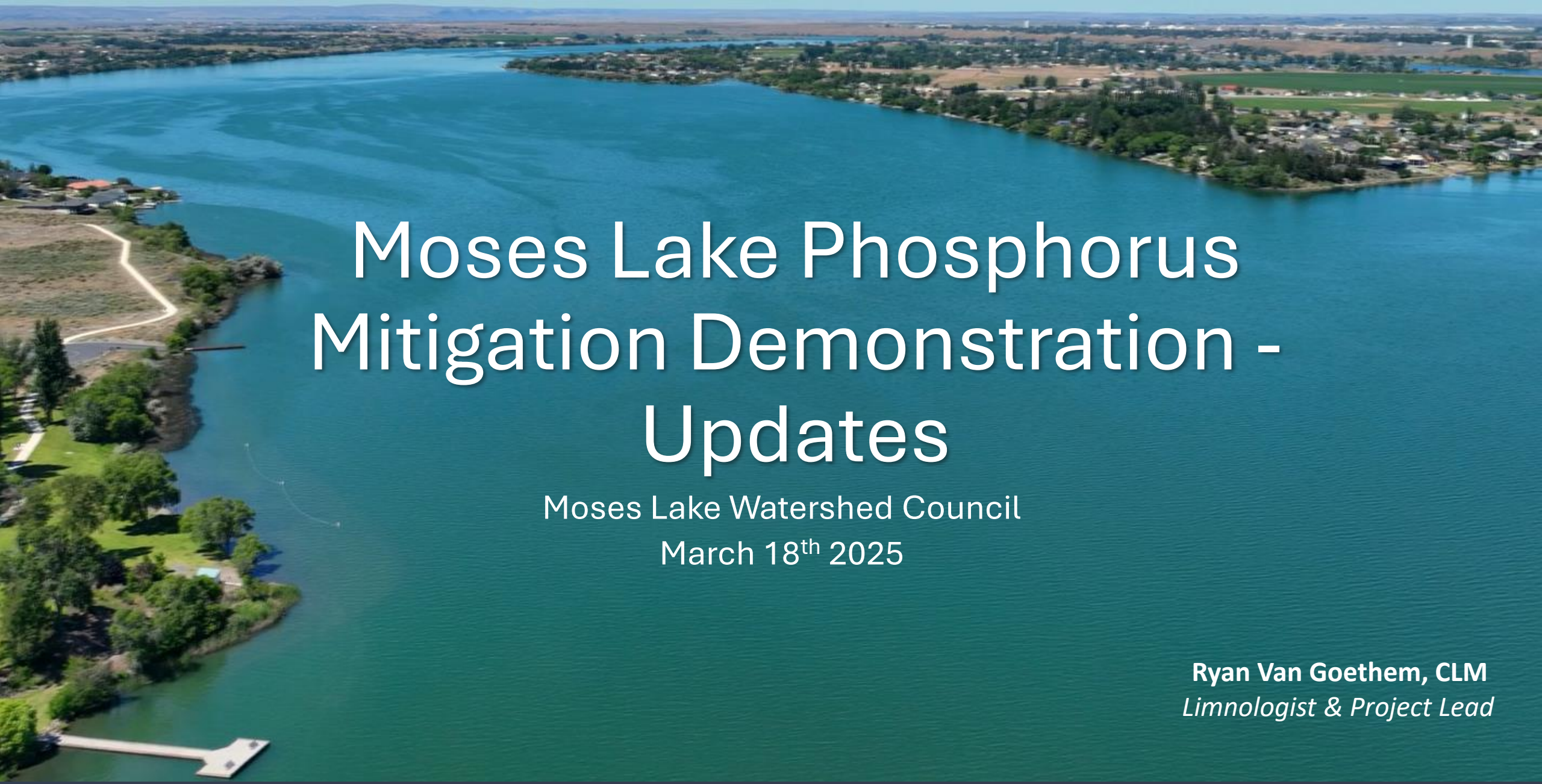


Moses Lake Phosphorus Mitigation Demonstration - Updates

Moses Lake Watershed Council

March 18th 2025

Ryan Van Goethem, CLM

Limnologist & Project Lead

EutroPHIX

Update

1. Columbia River Water impact to 2024 water quality
2. Sediments update: had reduction in releasable P
3. 2025 Rocky Ford Creek Treatments planned
4. Draft Report next week

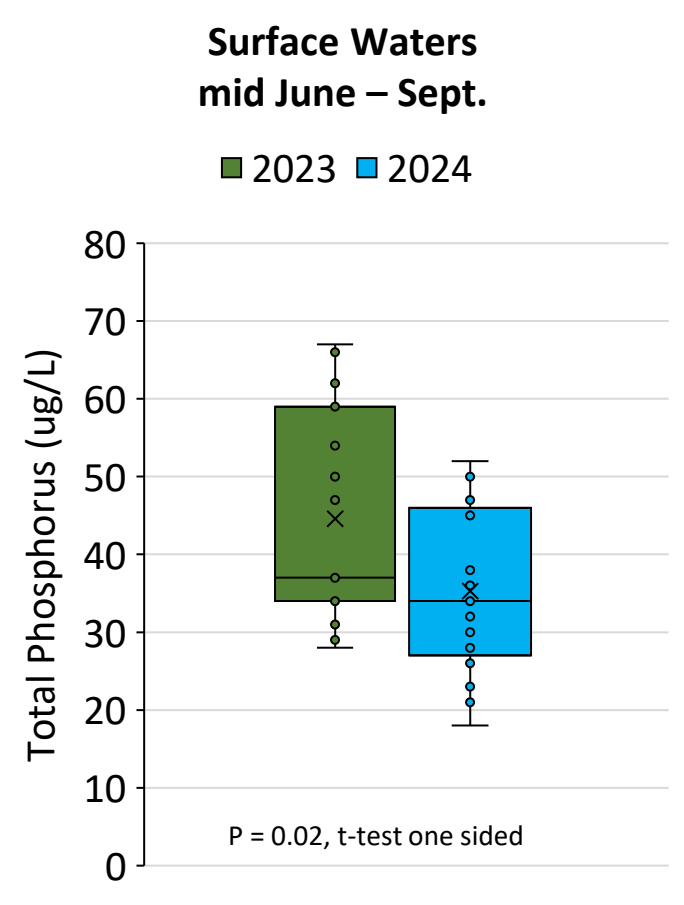
% Columbia River Water across RFA

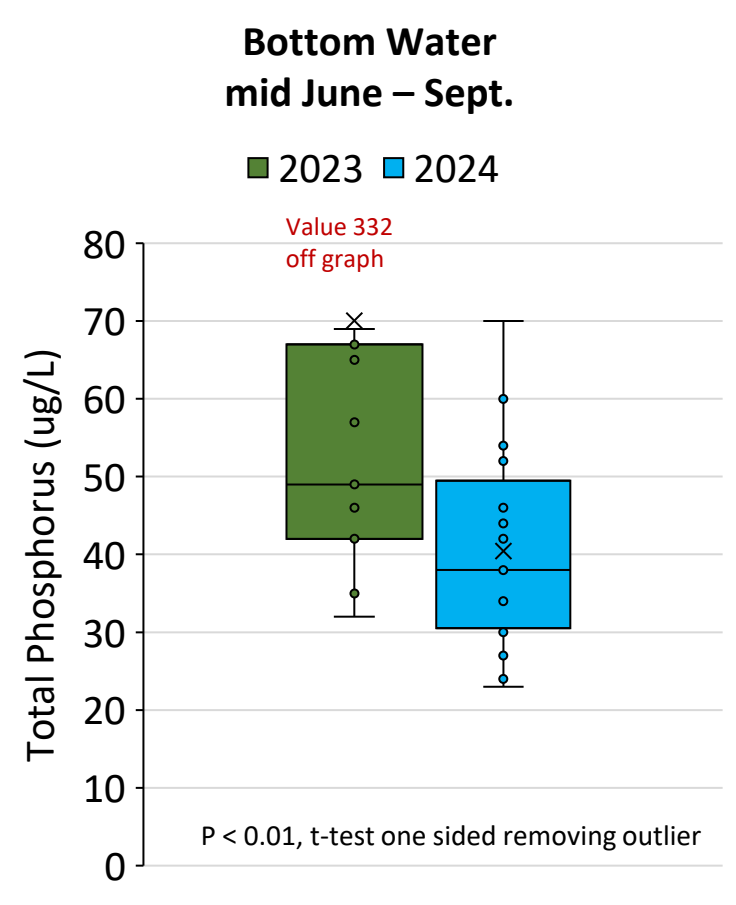
- High %CRW = lower TP, >60% good
- Low % CRW = higher TP, BAD!
- Used same equation from Welch & Brattebo 2024 based on profiles of specific conductivity
- May-Sept average

Year	TS-12	TS-11	TS-15	Mid RFA Average
2023 MLIRD	57%	60%	63%	60%
2024 EutroPHIX	32% (ML2/3)	43%	52% (ML4/5)	42% (ML-3/4,TS-11)
difference	*-25%*	*-17%*	*-11%*	*-18%*

Preliminary data not for publication

EutroSORB G application reduced surface & bottom water TP lower in 2024 in comparison to 2023. Highest reductions measured in bottom waters.





Measured Changes 2024 vs 2023

Surface TP Mean = 21 % lower

Bottom TP Mean = 42 % lower

Bottom TP Median = 21% lower

Preliminary data not for publication

2023 = TS-11, TS-12, TS-15 MLIRD data 2024 = ML3, TS-11, ML4 EutroPHIX data

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With 43 %CRW in 2024, Surface TP would have likely been much higher with out EutroSORB G treatment in 2024.

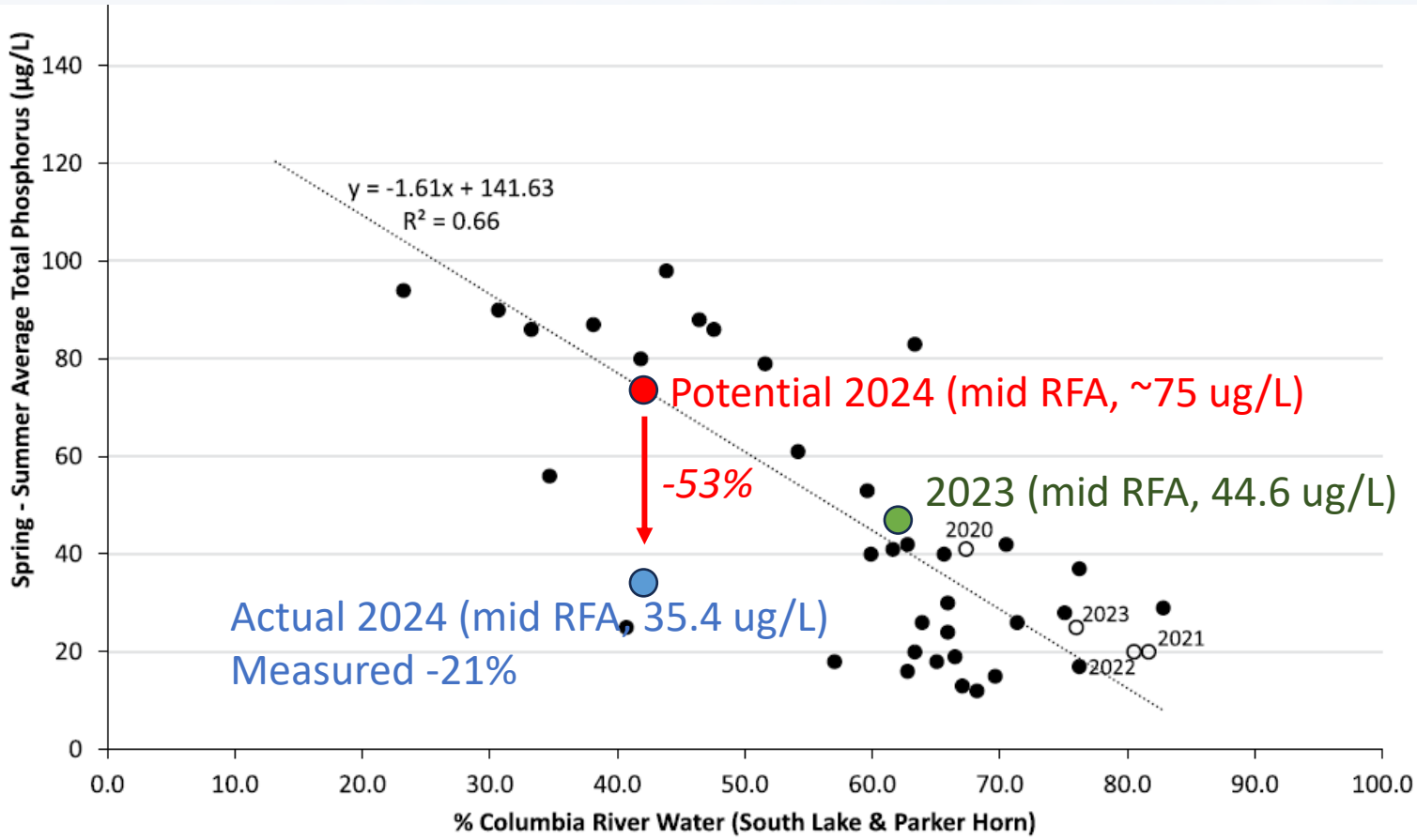

Figure 5. Relation between May–Sep average TP at South Lake (site 6) and lower Parker Horn (site 5) and percent Columbia River water at 0.5 m from 1977 to 2023. The point at 10% CRW and 152 µg/L TP was pre dilution in 1969–1970. Phosphorus and SC data for %CRW during 1977–1988 from Welch et al. (1989) and USBR at South Lake during 1995–2016.

Figure Adapted from Welch & Brattebo 2024, Lake & Reservoir Management 40:4

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Post-treatment Sediments collected 10/31/2024

- Surficial samples (4cm) via Ekman dredge
- 18 Standard P fractionation samples (15 inside treatment area)
- Quantify what's been bound up by treatment

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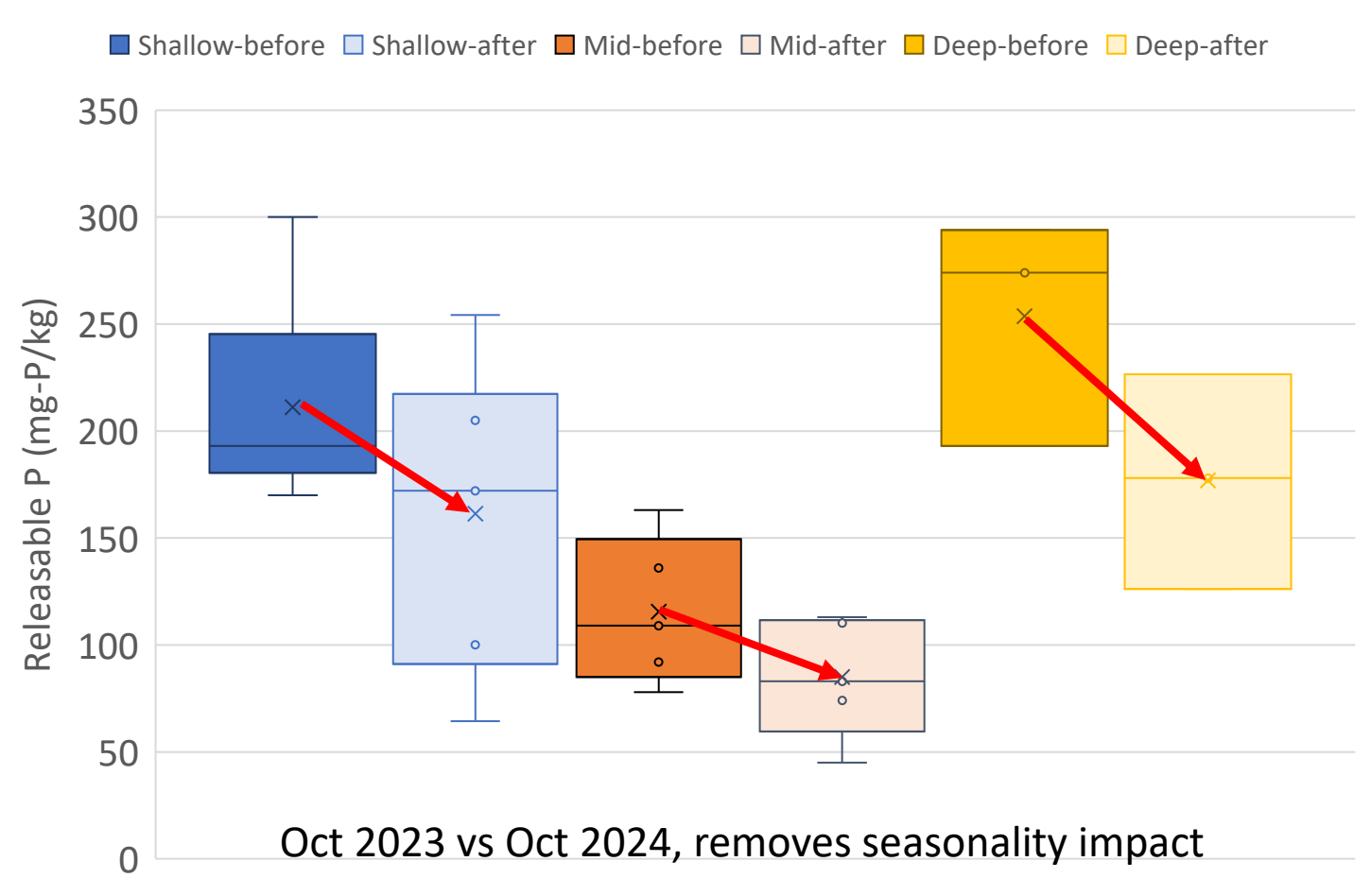
Releasable P in sediment decreased 4 months after EutroSORB G treatment



- ~ -26% change in releasable P in top 4cm
- 2024 propose better water related to less releasable P generated, more P burial
- only 3-20% La recovery in top 4cm, bound P and sank deeper in sediments
- Will collect sectioned sediment cores 2025 to better quantify La

Preliminary data not for publication

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Rocky Ford Creek Inflow Phosphorus Mitigation - 2025

- SATT system into secure trailer with security
- Apply 7 totes EutroSORB WC to finish 2024 project
- Install week April 7th planned
- Effectiveness monitoring

- MLIRD project (pending) to apply 7 more totes EutroSORB WC after

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