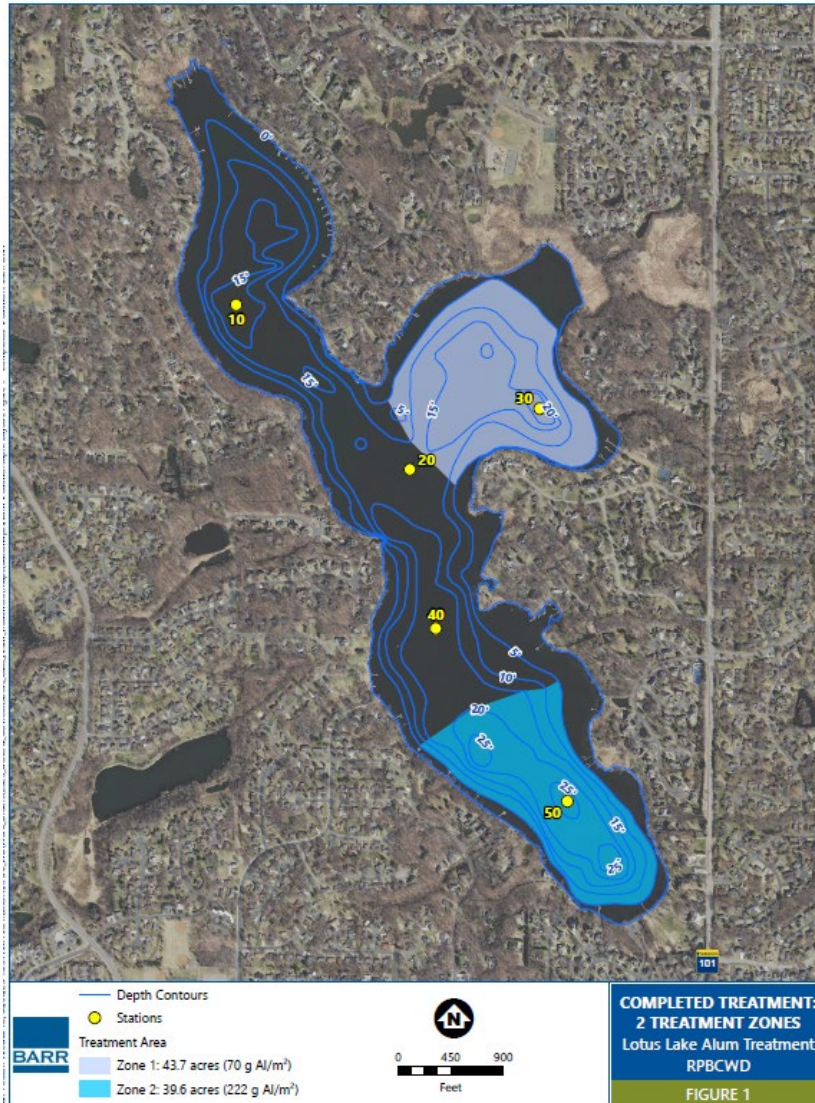


Lotus Lake Alum Treatment

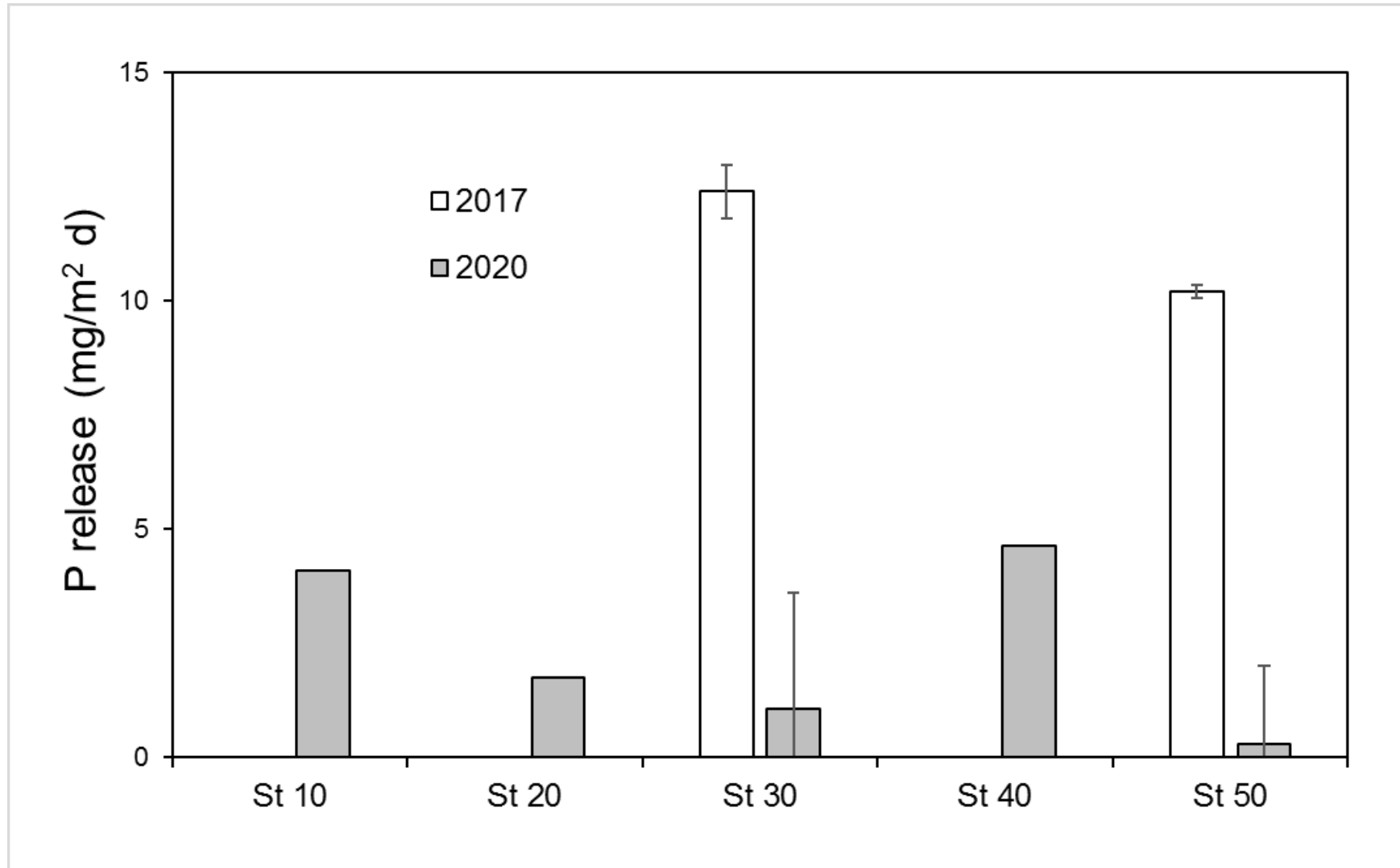


Lotus Lake Alum Treatment

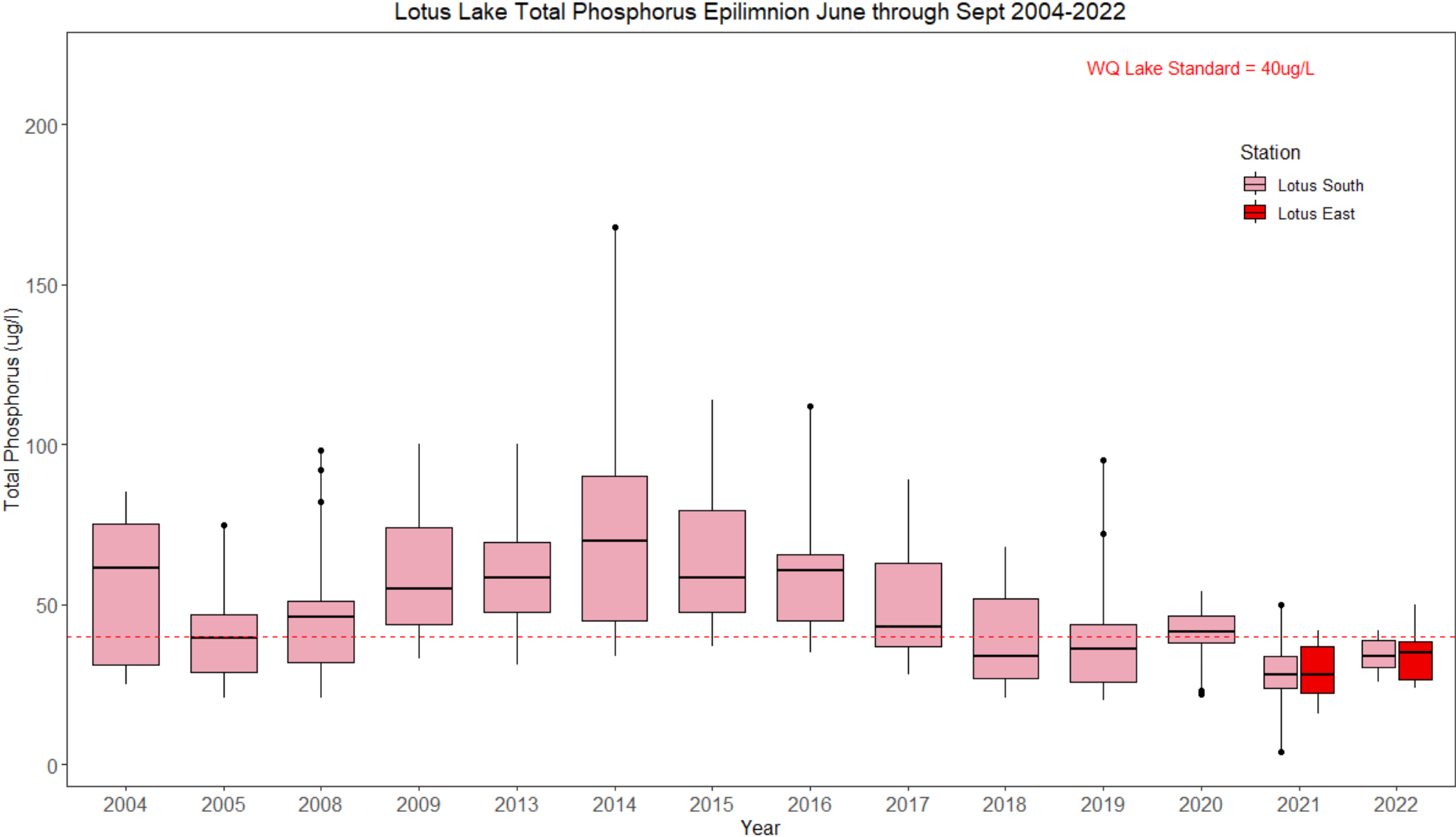


- 2017 UAA estimated internal P loading was 68% of the P load
- Alum treatment was prescribed in 2018
 - 70 g Al/m² zone 1; 222 g Al/m² zone 2
- **Half dose** applied in September 2018

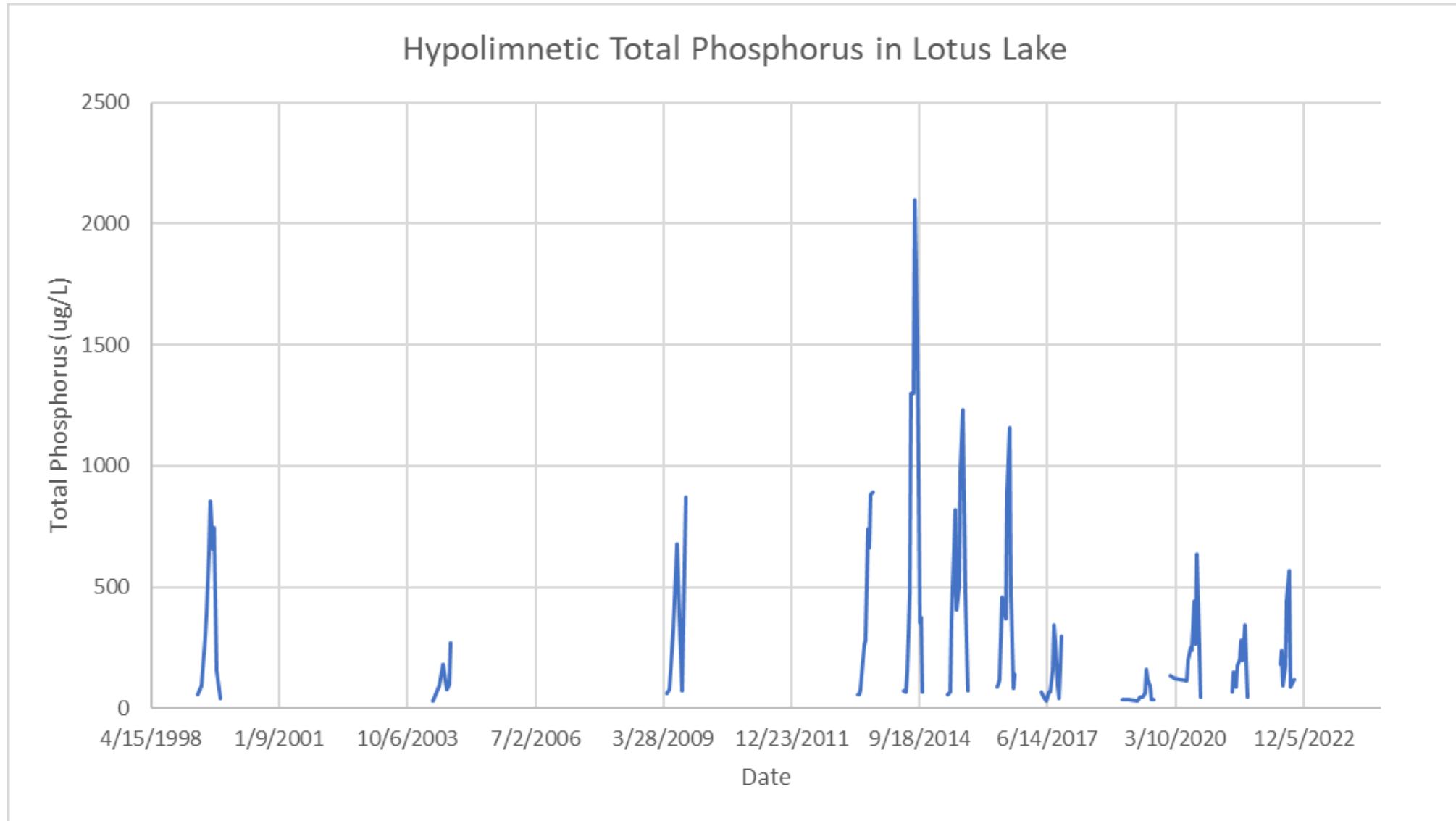
Post Half Dose Alum Sediment Phosphorus Release



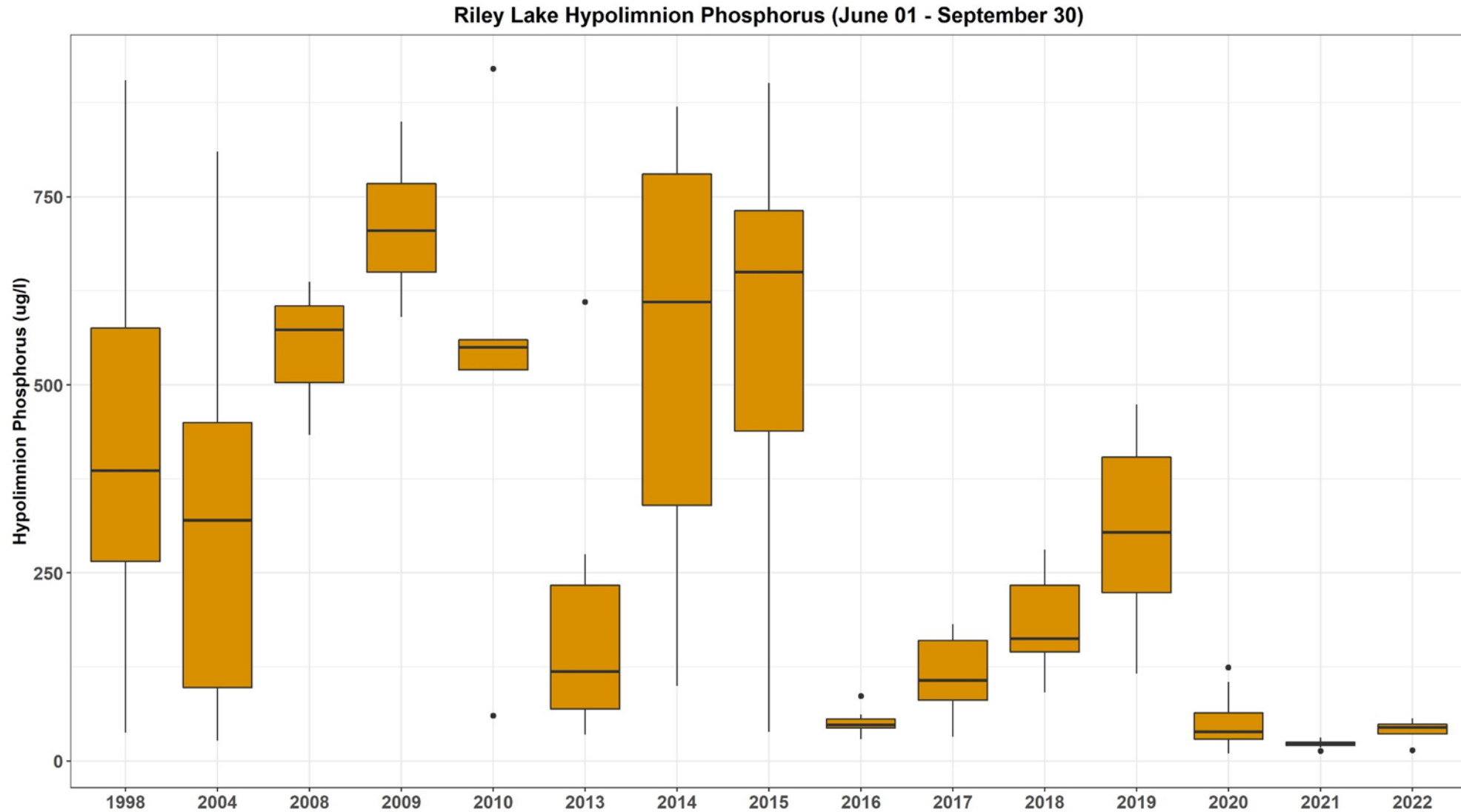
Surface Total Phosphorus



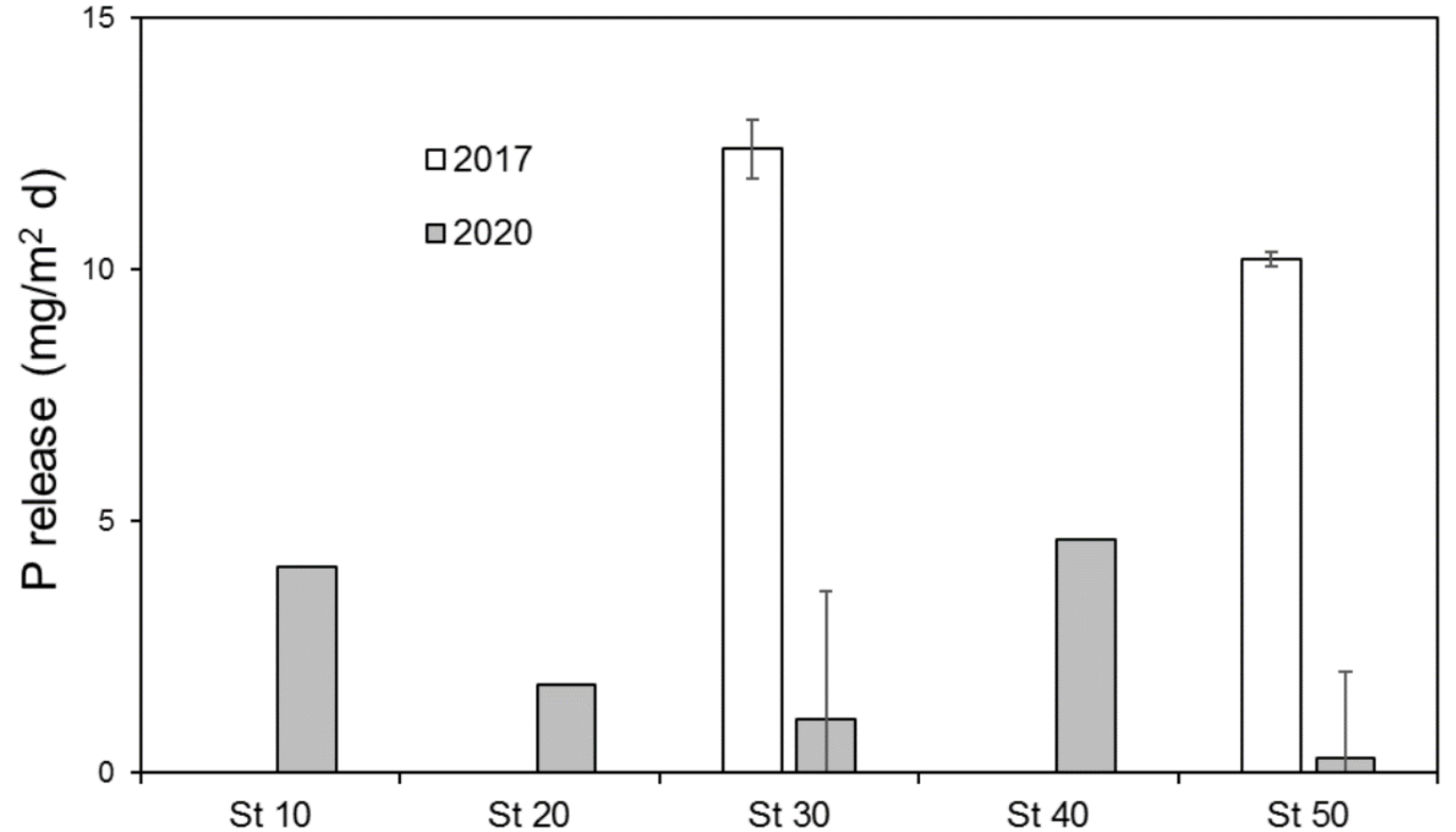
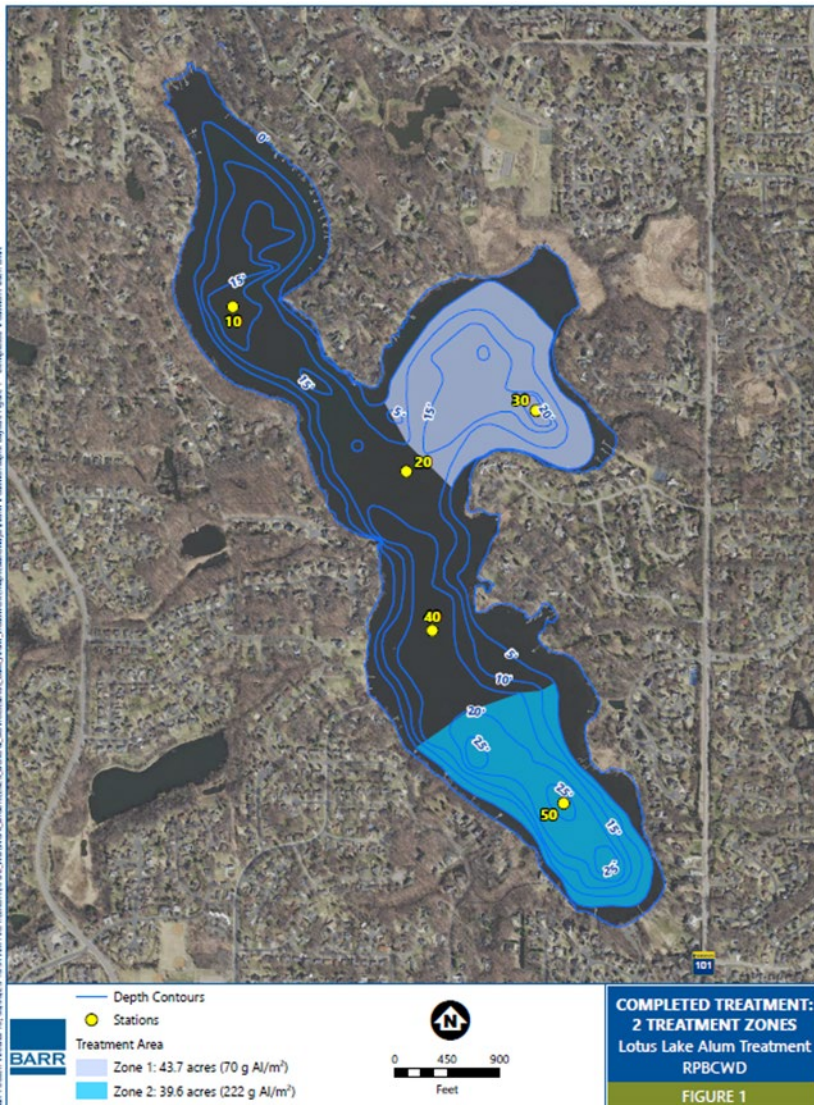
Bottom Total Phosphorus



Lake Riley Response to Initial Half Dose Application



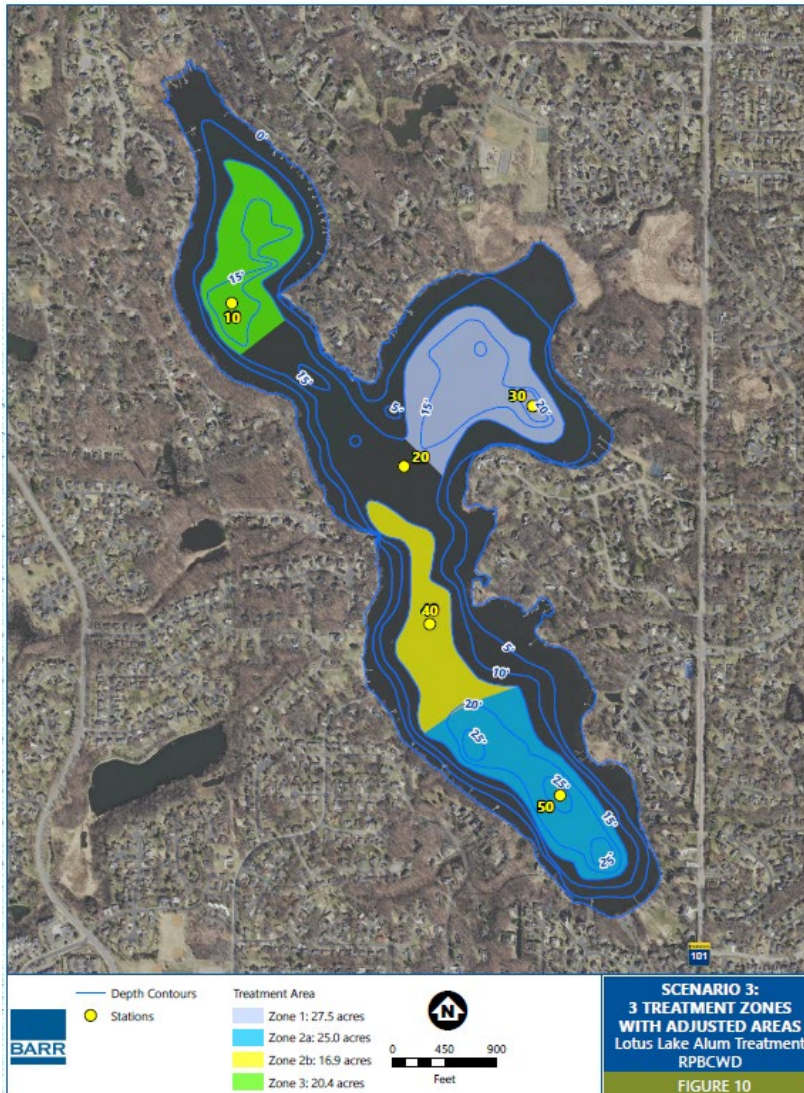
Treatment May Have been too Limited in Area



Recommended Alternative

■ Alternative 3

- Reduce deep water application area to >15 feet in Zone 1 and 2a
- Move alum targeted for 10-15 foot contour to station 10 and 40
- Estimated 2023 cost of ~\$250,000 if half dose in Zone 2b and 3
 - Second half dose in 2025 or 2026
 - Cost for second half dose ~ \$110,000



Questions?

Joe Bischoff, jbischoff@barr.com



Alternative Costs

Scenario	Zone	Item	Quantity	Unit Cost	Cost	Mobilization	Total 2023 Cost
1	1	Gal Al ₂ (SO ₄) ₃	27,940	\$2.94	\$82,143	\$7,000	\$325,211
	2	Gal Al ₂ (SO ₄) ₃	80,295	2.94	\$236,068		
2	1	Gal Al ₂ (SO ₄) ₃	9,015	\$2.94	\$26,313	\$7,000	\$182,346
	2	Gal Al ₂ (SO ₄) ₃	50,692	\$2.94	\$149,033		
3	1	Gal Al ₂ (SO ₄) ₃	17,582	\$2.94	\$51,692	\$7,000	\$242,199
	2a	Gal Al ₂ (SO ₄) ₃	27,401	\$2.94	\$80,558		
	2b	Gal Al ₂ (SO ₄) ₃	12,657	\$2.94	\$37,213		
	3	Gal Al ₂ (SO ₄) ₃	22,359	\$2.94	\$65,736		
4	1	Gal Al ₂ (SO ₄) ₃	17,582	\$2.94	\$51,692	\$7,000	\$300,470
	2a	Gal Al ₂ (SO ₄) ₃	27,401	\$2.94	\$80,558		
	2b	Gal Al ₂ (SO ₄) ₃	12,657	\$2.94	\$37,213		
	3	Gal Al ₂ (SO ₄) ₃	22,359	\$2.94	\$65,736		
	4	Gal Al ₂ (SO ₄) ₃	19,820	\$2.94	\$58,271		