Key Takeaways from the 2025 Report

1. Lake Condition Overview

- Lake LeAnn remains **highly nutrient-impaired** with persistent **cyanobacteria (Microcystis)** blooms.
- Multiple nutrient sources continue to drive impairment: **drains, septic leachate, lawn fertilizers, and internal loading**.
- The LFA aeration/bioaugmentation system showed **limited benefit** and was removed in 2025.

2. Water Quality Improvements

- **TP and TIN declined** in all flowing CSAs (#1A, #1B, #2A, #2B) during 2025 sampling.
- **EutroSORB® applied in the north basin** shows early signs of reducing internal phosphorus loading.
- **Dissolved oxygen improved** in many deep-water profiles, especially in the north basin.
- **Invasive plant biomass (EWM, CLP)** significantly reduced after targeted herbicide treatments.
- **Native plant diversity increased** in both basins by September 2025.
- **Sediment hardness** is mostly consolidated—favorable for P-binding clay performance.

3. Ongoing Problems & Opportunities

External Loading (Highest Priority)

- CSA drains remain **major nutrient contributors**.
- EGLE restrictions prevent biochar placement in "wetland-classified" drains despite data showing nutrient export.
- **Nearshore internal loading** in the north basin driven by septic leachate and fertilizer use.

Internal Loading

- North basin continues to show **strong internal P release** under low DO.
- South basin deep sites (#4 and #5) show **emerging internal loading**.

Cyanobacteria

- Microcystis remains dominant; clarity remains poor.
- Copper and peroxide treatments have **limited long-term benefit**.

Monitoring

- Current program is **adequate but not optimized** for storm-event nutrient pulses or nearshore loading.

4. Recommended Mitigation for 2026

Internal Loading Control

- Continue and expand **EutroSORB® dosing** in the north basin.
- Evaluate **targeted dosing** in south basin deep sites.

External Loading Reduction

- Re-engage EGLE with updated data to allow **biochar in key drains**.
- Expand **bottom-placed char filters** where permitted.
- Promote **fertilizer-free shoreline practices** and inspect high-risk septic areas.

Aquatic Vegetation

- Continue **spot-treatment herbicide program** for EWM and CLP.
- Protect native vegetation.

Cyanobacteria

- Avoid copper unless green algae dominate.
- Use peroxide only for surface scums.
- Focus on **nutrient reduction**, not algaecides.

Monitoring Optimization

- Shift to **storm-event CSA sampling**.
- Add **nearshore TP/DO transects** in the north basin.
- Maintain **three seasonal deep-basin profiles**.