memo

Project Name |	2025 Aquatic Vegetation Point-Intercept Surveys	**Date** |	4/1/2025
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Karen Kill, BCWD Administrator		
From / Contact info |	Jimmy Marty, Camilla Correll, Pat Conrad (EOR)		
Regarding |	South School Section, Goggins, Long, and Benz Lake Point-Intercept Surveys		

EOR was requested to provide aquatic macrophyte point-intercept survey cost estimates for South School Section, Goggins, Long, and Benz Lakes for consideration by the Board. Background and costs for performing these surveys are described below.

Background

South School Section and Goggins Lakes

The findings of the 2022 curly-leaf pondweed (CLP) delineation and follow up point-intercept survey recommended repeat surveys after 3 years to assess CLP management efficacy. The surveys were also recommended to assess the watermilfoil (EWM) and impacts on the native plant community. Herbicide treatments between 2017 and 2021 reduced CLP abundance at South School Section Lake from a 56% frequency of occurrence to less than 3% in 2022. A colonizing stand of CLP was treated in 2021 at Goggins Lake and was not detected in 2022. For the first time in either lake, the 2022 surveys documented EWM, though no treatment was recommended at the time due to negligible impacts on the native plant community and habitat. Since 2022, a rare aquatic plant (snailseed pondweed) has been documented in Goggins Lake. Therefore, 2025 surveys on both lakes would assess long-term CLP treatment efficacy, EWM impacts on the native plant community, assess snailseed pondweed status, and inform potential future actions. The surveys are proposed for late June 2025 to best capture both peak CLP growth and active EWM and snailseed pondweed growth. If CLP is documented as forming monotypic stands, these areas will be delineated and eligible for 2026 treatments if determined necessary.

Long Lake

EOR understands several Long Lake riparian owners have expressed concern over dense vegetation restricting recreation access in recent years. The last point-intercept survey for Long Lake was completed in 2009. DNR lake survey protocols recommended point-intercept survey monitoring be conducted every 5-10 years to establish trends, and more frequently for lakes that are managed. Based on landowner concerns and the date of the last point-intercept survey, EOR recommends a point-intercept survey be conducted in 2025 to document the existing condition of the aquatic plant community and compare it to the 2009 survey.

Benz Lake

Lake-wide point intercept surveys were last completed at Benz Lake in 2017 and 2022. Following the 2022 survey, EOR recommended point-intercept surveys be repeated every 3-5 years. At the time of the 2017 survey, the lake had recently flipped from an algae dominated, poor clarity condition to a aquatic plant dominated, clear-water state. The lake appeared to be in a similar, aquatic plant dominated, clear-water state during the 2022 survey. Aquatic vegetation growth was expected to

decrease somewhat over time as water quality improves and the plant community establishes a new equilibrium. A lake-wide point intercept survey in 2025 would further establish if stable trends of dense vegetation are continuing or declining and if the clear-water state is being maintained. The survey would be proposed for late June to capture potential CLP issues.

Proposed Tasks & Assumptions

Surveys will be conducted in late June to target peak CLP density while still capturing other aquatic plant diversity. Past point-intercept surveys were targeted in July/August at peak aquatic plant diversity. Future surveys beyond 2025 should alternate timing (or conduct two surveys within a season) to capture both CLP growth and peak aquatic plant diversity.

Task 1: South School Section and Goggins Lake Aquatic Plant Point-Intercept Survey

Based on the depth and clarity of the lakes, abundant aquatic plant growth is likely throughout most of the lakes. To estimate the effort needed to conduct the survey, EOR used the previous point-intercept sampling grids created in 2017 and 2022. Field preparations and sampling all aquatic plants and estimating plant density for each species identified are estimated to take 26 staff hours during a single-day survey. An additional 12 hours will be required to develop maps in GIS and a summary memo describing the distribution, density, and floristic quality of the aquatic plant community.

EOR Fee: 38 hours including report summary, mileage, and equipment fee = $5,951

Assumptions: Work plan assumes two EOR staff will complete the survey. Cost savings of approximately $1,548 could be realized should the District provide one staff person to assist in place of EOR staff.

Task 2: Long Lake Aquatic Plant Point-Intercept Survey

Based on the depth and clarity of the lake, abundant aquatic plant growth is likely throughout most of the lake. To estimate the effort needed to conduct the survey, EOR generated a new point-intercept sampling grid according to DNR methods (~170 sampling points). Field preparations and sampling all aquatic plants and estimating plant density for each species identified are estimated to take 22 staff hours during a single day survey. An additional 10 hours will be required to develop maps in GIS and a summary memo describing the distribution, density, and floristic quality of the aquatic plant community.

EOR Fee: 32 hours including report summary, mileage, and equipment fee = $4,988

Assumptions: Work plan assumes two EOR staff will complete the survey. Cost savings of approximately $1,290 could be realized should the District provide one staff person to assist in place of EOR staff.

Task 3: Benz Lake Aquatic Plant Point-Intercept Survey

Based on the depth and clarity of the lake, abundant aquatic plant growth in July/August is likely throughout most of the lake. To estimate the effort needed to conduct the survey, EOR used the

previous point-intercept sampling grid created in 2022. Field preparations and sampling all aquatic plants, and estimating plant density for each species identified are estimated to take 15 staff hours during a single day survey. An additional 10 hours will be required to develop maps in GIS and a create a summary memo describing the distribution, density, and floristic quality of the aquatic plant community.

EOR Fee: 25 hours including report summary and mileage = $3,960

Assumptions: District will arrange landowner access. The work plan assumes two EOR staff will complete the survey. Cost savings of approximately $902 could be realized should the District provide one staff person to assist in place of EOR staff.

Cost Summary

Task	Cost (EOR only)	Cost (with 1 District staff)
1. South School Lake and Goggins PI Survey	$5,951	$4,403
2. Long Lake PI Survey	$4,988	$3,698
3. Benz Lake PI Survey	$3,960	$3,057
Total	**$14,899**	**$11,158**

Board Action

1. Approve this scope of work for EOR's involvement in the 2025 Aquatic Vegetation Point-Intercept Surveys in the amount of $11,158 with District Staff assistance from account numbers 959-0004.