

Appendix B - 2023-27 Implementation Matrix - Horseshoe Lake, Barron/Polk County (Page 1)

Goal	Objective	Recommendation	Grant Eligible	Facilitator	2023	2024	2025	2026	2027	
1) Protect and enhance the native aquatic plant community.	Maintain or exceed independent values for the following aquatic plant community health: Species Identified; Frequency of Occurrence; SDI, Mean C, FQI, and Average Native Species per sight.	Implement plant management actions that will do the most to protect and enhance the native aquatic plant community.	yes	District, Consultant, WDNR, Outside Resource	x	x	x	x	x	
		Determine management actions based on prior year field data.	yes		x	x	x	x	x	
	Prepare summary reports for annual aquatic plant surveys and management actions that can be used to help guide successive year management.	Complete aquatic plant survey results reports annually.	yes		x	x	x	x	x	
		Complete End-of-Year Summary Reports annually.	yes		x	x	x	x	x	
	Measure the five year impact of AIS management actions completed on Horseshoe Lake	Repeat a whole lake, point-intercept, aquatic plant survey in 2025.	yes						x	
		Review and revise the existing APM Plan for implementation in 2026.	yes							x
2) Manage existing AIS in the lake and along its shoreline in a way that minimizes its impact on the native aquatic plant community, lake use, and accessibility.	Determine how much E-HWM is present in the lake each year.	Complete E-HWM bedmapping annually in the late summer	yes	District, Consultant, Outside Resource	x	x	x	x	x	
	Implement E-HWM management actions to keep E-HWM below 2.0 acres each year.	If the amount of E-HWM in any given bed is <1.0 acre, implement an integrated approach to management that includes physical removal by property owners, rake removal, snorkel, scuba diver, and potentially DASH (if resources are available).	yes	District	x	x	x	x	x	
		If the amount of E-HWM in any given bed or combined beds is ≥1.0acres, implement an integrated approach to management that includes physical removal by property owners, rake removal, snorkel, scuba diver, DASH, and/or the application of aquatic herbicides (if the resources are available).		District, Outside Resource (Divers or DASH), Consultant	x	x	x	x	x	
	Measure the effectiveness and impacts of herbicide treatments on target and non-target plants within the treated areas on an annual basis.	Complete a pre-treatment sub-PI survey within a proposed chemical treatment area in the year prior to treatment, and a post-treatment sub-PI survey either in the year of treatment or the year following treatment.	Complete a pre-chemical treatment readiness survey in the year of proposed chemical management	yes	Consultant, Outside Resource	?	?	?	?	?
			If aquatic plant herbicides are used for management, consider implementing an herbicide concentration testing program in the year of management. This action must be done if the expected treatment area(s) reaches or exceeds 10 acres of the lake.			x	x	x	x	x
		Monitor and remove curly-leaf pondweed in Horseshoe Lake annually	Complete on-the-water monitoring of CLP			yes	District, Consultant	x	x	x
		Physically remove CLP by rake or diver when found.	x	x	x			x	x	
	Track the distribution and density of purple loosestrife along the shores of Horseshoe Lake and implement management actions annually.	Complete a visual inspection of the entire shoreland in late July or early August and record the location of any purple loosestrife found on a map. Remove any purple loosestrife or at a minimum remove its flowering heads if possible.	yes	District, Consultant	x	x	x	x	x	

District, Horseshoe Lake Inland Lake Protection and Rehabilitation District; **SDI**, Simpsons Diversity Index; **FQI**, Floristic Quality Index; **Mean C**, Mean Coefficient of Conservatism; **E-HWM**, Eurasian-Hybrid Watermilfoil; **CLP**, Curly-leaf Pondweed; **CLMN**, Citizen Lake Monitoring Network; **DASH**, Diver-Aided Suction Harvest; **AIS**, Aquatic Invasive Species; **APM Plan**, Aquatic Plant Management Plan; **CBCW**, Clean Boats Clean Waters

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3) Reduce the threat that a new aquatic invasive species will be introduced and go undetected in Horseshoe Lake, that existing AIS will be carried to other lakes, and improve the level of knowledge property owners and lake users have related to aquatic invasive species.	Implement a Clean Boats Clean Waters (CBCW) water craft inspection program annually.	Attempt to get 200 hours of paid watercraft inspection at the public access.	yes	District, Consultant, Outside Resource	x	x	x	x	x
		Apply for small-scale CBCW grants annually to support watercraft inspection efforts.			x	x	x	x	x
	Maintain current and complete AIS Signage at the public access on Horseshoe Lake annually.	Inspect the public access for appropriate AIS signage annually.	yes	District	x	x	x	x	x
		Repair, replace, and/or install current WDNR AIS signs at the public access.	yes	District, Outside Resource	?	?	?	?	?
	Reduce the likelihood that new AIS goes undetected in Horseshoe Lake and track existing AIS for additional spread.	Participate in CLMN AIS Monitoring at least monthly between May and October each year.	yes	District	x	x	x	x	x
	Plan, coordinate, and implement an annual AIS education event(s) alone or in cooperation with other Stakeholders.	Contract with Resource Professional for planning services	yes	District	x	x	x	x	x
	Distribute information and education materials to property owners and lake users.	Research AIS and lake stewardship materials with little or no cost to attain and make available at events including but not limited to Annual Meetings, Lake Fairs, Summer Picnic, etc.	no	District	x	x	x	x	x
	Solicit public input and review of annual AIS management planning efforts.	Complete preliminary AIS management planning by January 31 each year and post on the District webpage for public comment.	yes	District, Consultant	x	x	x	x	x
		Provide a summary of coming year AIS management plans in a spring newsletter to be published and distributed prior to April 30 each year.	yes	District	x	x	x	x	x
		Present current year AIS management actions at the Annual Meeting held in August each year.	yes	District	x	x	x	x	x
4) Improve the level of knowledge property owners and lake users have related to how their actions impact the aquatic plant community, lake community, and water quality.	Increase the amount of shoreland with a natural buffer in place by 20% (13 to 15 parcels) through native plantings and other best management practices.	Distribute shoreland improvement education and information materials to lake property owners through the newsletter, webpage, and general mailings.	yes	District	x	x	x	x	x
		Host and/or sponsor annual lake community events that encourage land owner participation in best management practices.	yes	District, Outside Resource	x	x	x	x	x
		Support property owners who wish to complete shoreland restoration or habitat improvement projects through District sponsorship of at least one Healthy Lakes grant application by 2026.	yes	District	x	x	x	x	x
		Recognize property owners who participate in and/or complete shoreland restoration and habitat improvement projects			x	x	x	x	x
	Continue to collect long-term trend water quality data in Horseshoe Lake.	Collect CLMN water quality data (water clarity, total phosphorus, chlorophyll a, and dissolved oxygen and temperature) in the Deep Hole.	yes	District	x	x	x	x	x
	Determine why Horseshoe Lake experiences significant algae blooms in the late summer and fall and take steps to mediate the situation.	Work with the WDNR, USGS, UW-System, and other water quality experts to develop a plan to collect data that will help explain why the lake experiences significant algae blooms in the late summer and fall.	yes	District, Consultant	x	x	x	x	x
		Implement that plan with the help of WDNR surface water grant funding and Resource Professionals.		District, Consultant, Outside Resource	x	x	x	x	x
Work toward the development of a water quality focused comprehensive lake management plan based on data collected in the previous action item.		District, Consultant		x	x	x	x	x	