

Lake Okeechobee Cattail Management Prioritization Florida Fish and Wildlife Conservation Commission Fiscal Year 2021-2022

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The Florida Fish and Wildlife Conservation Commission (FWC) is seeking input on the management of cattail (*Typha* sp.) on Lake Okeechobee. The purpose of this document is to provide information and to solicit feedback on a potential cattail management project in the fiscal year 2021-2022. Comments and concerns regarding preferred management sites, areas of the lake to avoid, management areas to postpone for future years, project size, or project timing are greatly appreciated. Please direct comments or inquiries to Alyssa Jordan or Christy Soldo.

Project Overview:

Aerial mapping of Lake Okeechobee in June 2021 showed three general areas of the lake marsh with extremely dense, monotypic stands of cattail (Fig. 1). While cattail is prolific throughout the marsh, seven areas have large, dense, monotypic stands (Figs. 2-4). In total, we identified 4,651 acres of cattail where management would benefit the littoral health of the lake. We would like to prioritize up to 1,210 acres of cattail for management this fall.

In previous years, herbicide management has been conducted in October-December to allow for burning in late winter or early spring. In other instances, management practices have been implemented in May or June. This year, our goal is to start management in **late August or early September** before the start of early teal waterfowl season. Management in late summer allows us to burn these areas during the appropriate season (**November-May or 3-6 months after treatment**) and to manage more acreage later in the year should additional funding be acquired.

Prescribed fire will open the area up quickly for wildlife use, and it will also consume the dead organic material, so that it does not drop to the bottom of the lake as it decays. Prescribed fire following pre-treatment with selective herbicide extends the efficacy of the herbicide treatments and reduces the amount of herbicide used over time. Cattail management with the selective herbicides and prescribed fire is part of an integrated management approach in coordination with other state and federal agencies on Lake Okeechobee.

Potential Project Area Comments/Concerns/Ideas:

1. Indian Prairie Marsh (Western Marsh) - 1032 acres (Fig. 2). Large area that we've managed (mainly with herbicide alone) several times and it comes back relatively quickly. May be from the high nutrient input of S-129. Is it worth re-treating?
2. Dyess Ditch (Western Marsh) - 346 acres (Fig. 2). Eastern extension of the management we did in 2018 (herbicide and burned). In general, it was successful from an angler standpoint based on the high number of anglers using this area in winter 2020-21. However, much of the cattail left on the lakeward edge has been reduced (likely from heavy wave action/energy), so if we want to maintain a cattail edge, we'd need to leave a wider band of cattail lakeward of the treatment area than in the 2018 Dyess project.
3. Moonshine Bay (Western Marsh)– 864 acres (Fig. 2). Adjacent and northeast to the management (herbicide and burned) we did this past year (2020). It's very thick cattail all throughout. This area was not part of the original 2015 management areas but was managed in 2016 (fire first, then herbicide). **We saw large responses in snail kites, wading birds and waterfowl in 2016 after the 2015 management!** This area runs up to Observation Shoal, but we would not touch Observation Shoal because it is primarily willow.
4. Eagle Bay Marsh (Northwest Marsh) – 340 acres (Fig. 3) Although we mapped the full acreage of cattail, I'm thinking we do not want to do the full 340 acres here as it is right on the lake edge and we do not have a lot of vegetation in this area. We could possibly manage a smaller acreage of this area.
5. Tin House Slough (Northwest Marsh) – 245 acres (Fig. 3) Continuation of the area we managed (herbicide only, have not yet burned) this year (2020). It runs from the current management area almost to Buckhead Canal. There is a buffer between the canal and the mapped area.
6. Pelican Bay (Southern Marsh) – 83 acres (Fig. 4) Small area that's not as dense as the other sites. Although it was mapped, this area would be, in our opinion, our lowest-priority area.
7. South End (Southern Marsh) – 1741 acres (Fig. 4) Very large area of cattail. This area can easily be reduced to an amount everyone is comfortable with. It's not adjacent to any recent projects.

Management Techniques:

We want to target 1,210 acres of cattail using imazamox (Clearcast®; herbicide registered with U.S. Environmental Protection Agency and Florida Department of Agriculture and Consumer Service for aquatic use) and methylated seed oil (MSO; adjuvant labeled for aquatic use). Imazamox will be applied at the recommended label rate of 32 ounces/acre with MSO at 32 ounces/acre at a “12.5-gallon-per-acre” mix rate. At this application rate, Imazamox is selective for cattail and will not affect bulrush, spikerush, willow, aquatic grasses (e.g., “Kissimmee grass” and maidencane), and spatterdock. The Commission Contract Manager will be on-site throughout the treatment process to ensure the contractor is treating within project boundaries and meeting the specifications set forth in the scope of work. FWC will also be monitoring refueling activities. Because of the limited accessibility and large size of some of these management areas, helicopters are the only efficient way to apply herbicide (Fig. 5). Approximately 3-6 months after herbicide, prescribed fire will be applied to the management area.

Benefits of Management:

The management, removal, or thinning of dense, monotypic cattail stands can improve native plant diversity, water quality, and recreational opportunities on Lake Okeechobee (Fig. 6). The reestablishment of a native and diverse aquatic plant community enhances foraging habitat for birds and spawning and nesting habitat for fish. Cattail management using herbicide and prescribed fire prevents the buildup of organic material, thereby increasing dissolved oxygen levels and water flow within the littoral areas of the lake. Cattail removal can also improve lake access for recreational users (anglers, hunters, wildlife watchers, pleasure boaters, etc.) for many years post-treatment. Previous cattail management efforts led to the largest Everglade snail kite nesting event ever recorded on Lake Okeechobee! Furthermore, documentation shows extensive use of these newly opened areas by wading birds and waterfowl.

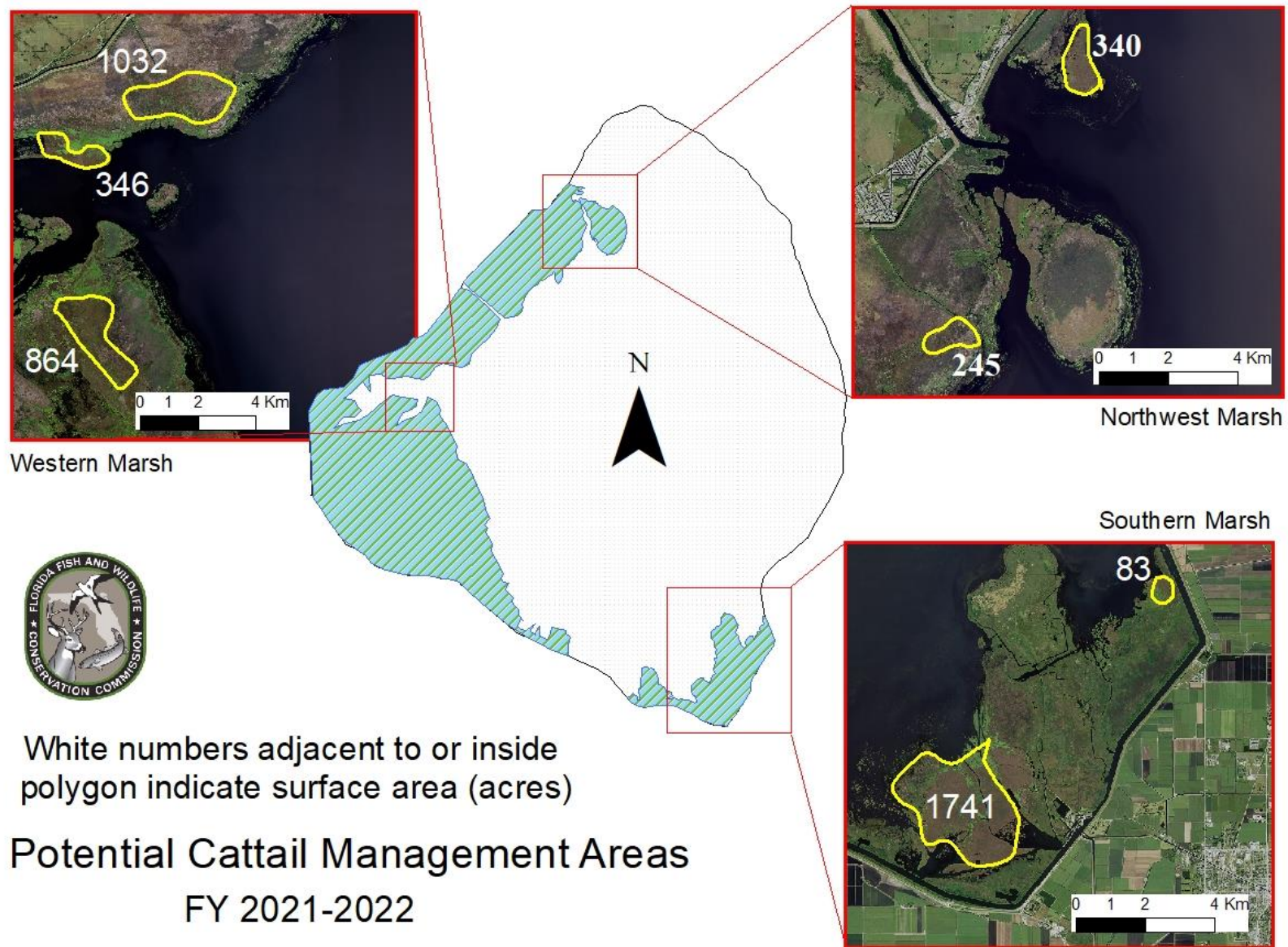


Figure 1. Aerial mapping revealed areas of dense, monotypic *Typha* sp. in the Lake Okeechobee marsh. Seven of these areas are proposed for management in FY 2021-2022.

Western Marsh Potential and Previous Cattail Management Areas

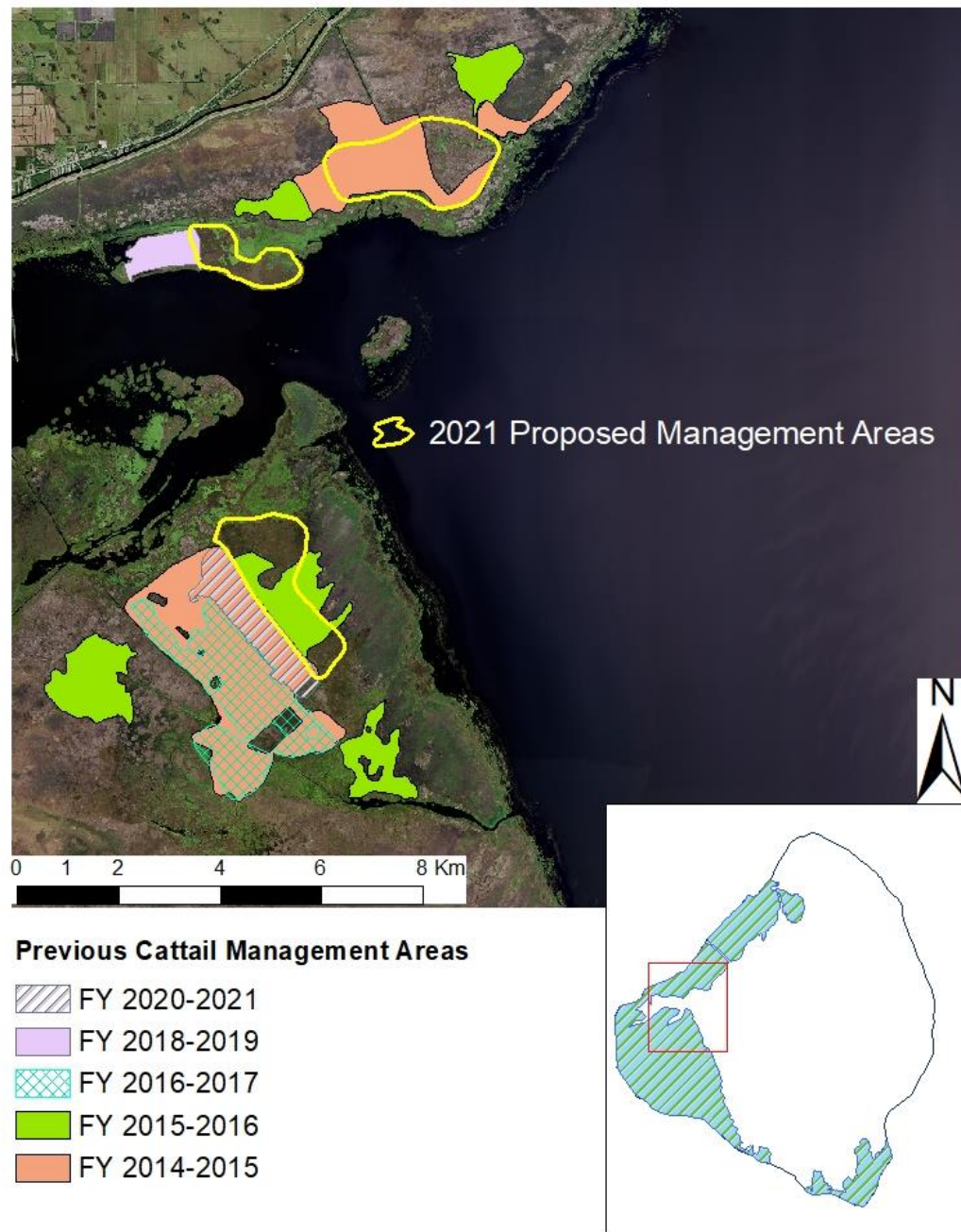


Figure 2. Aerial mapping identified 3 stands of cattail in the western marsh totaling 2,242 acres. This area of the lake has seen extensive cattail management over the last seven years.

Northwest Marsh Potential and Previous Cattail Management Areas

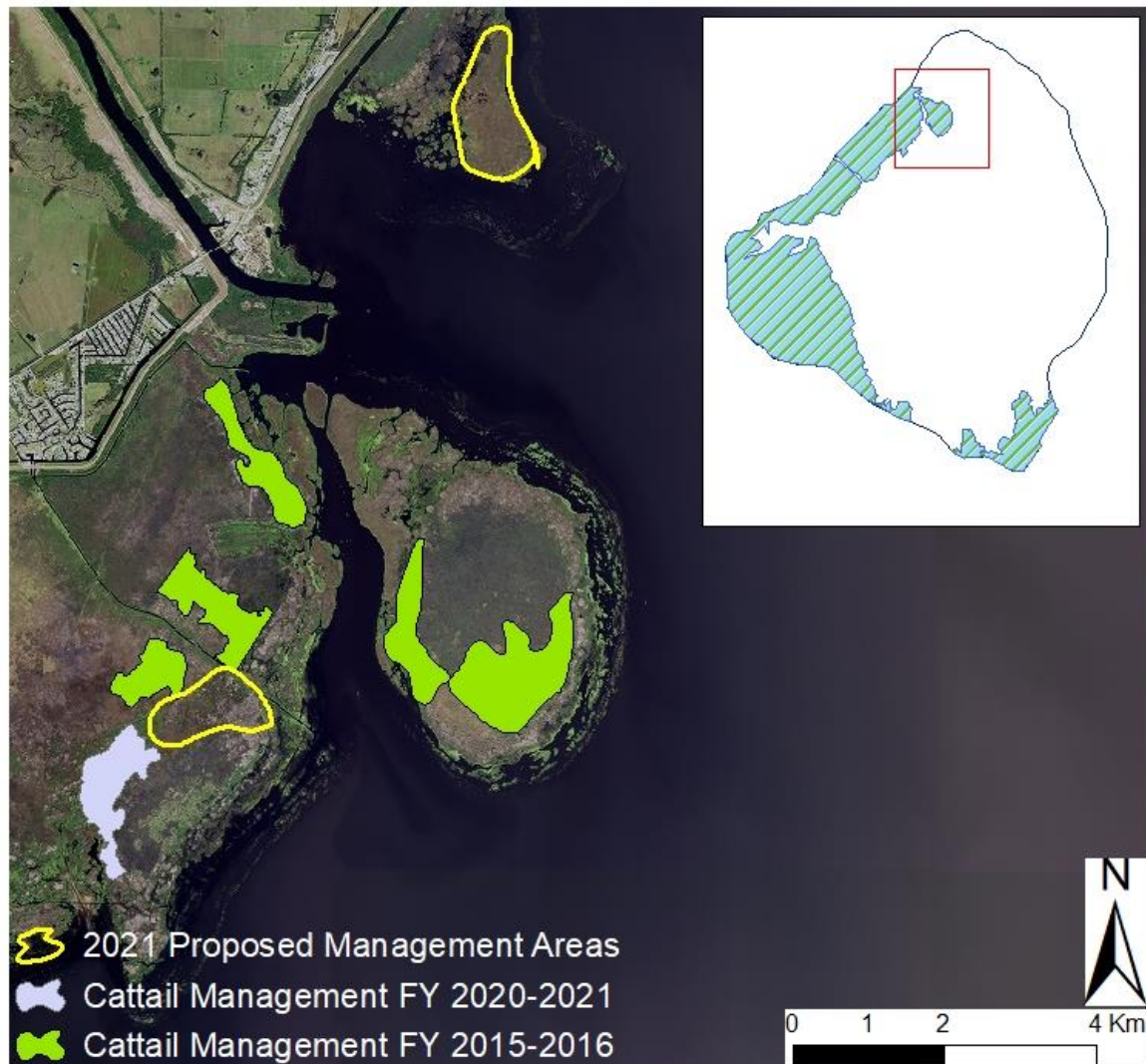


Figure 3. Aerial mapping identified 2 stands of cattail in the northwest marsh totaling 585 acres.

Southern Marsh Potential and Previous Cattail Management Areas

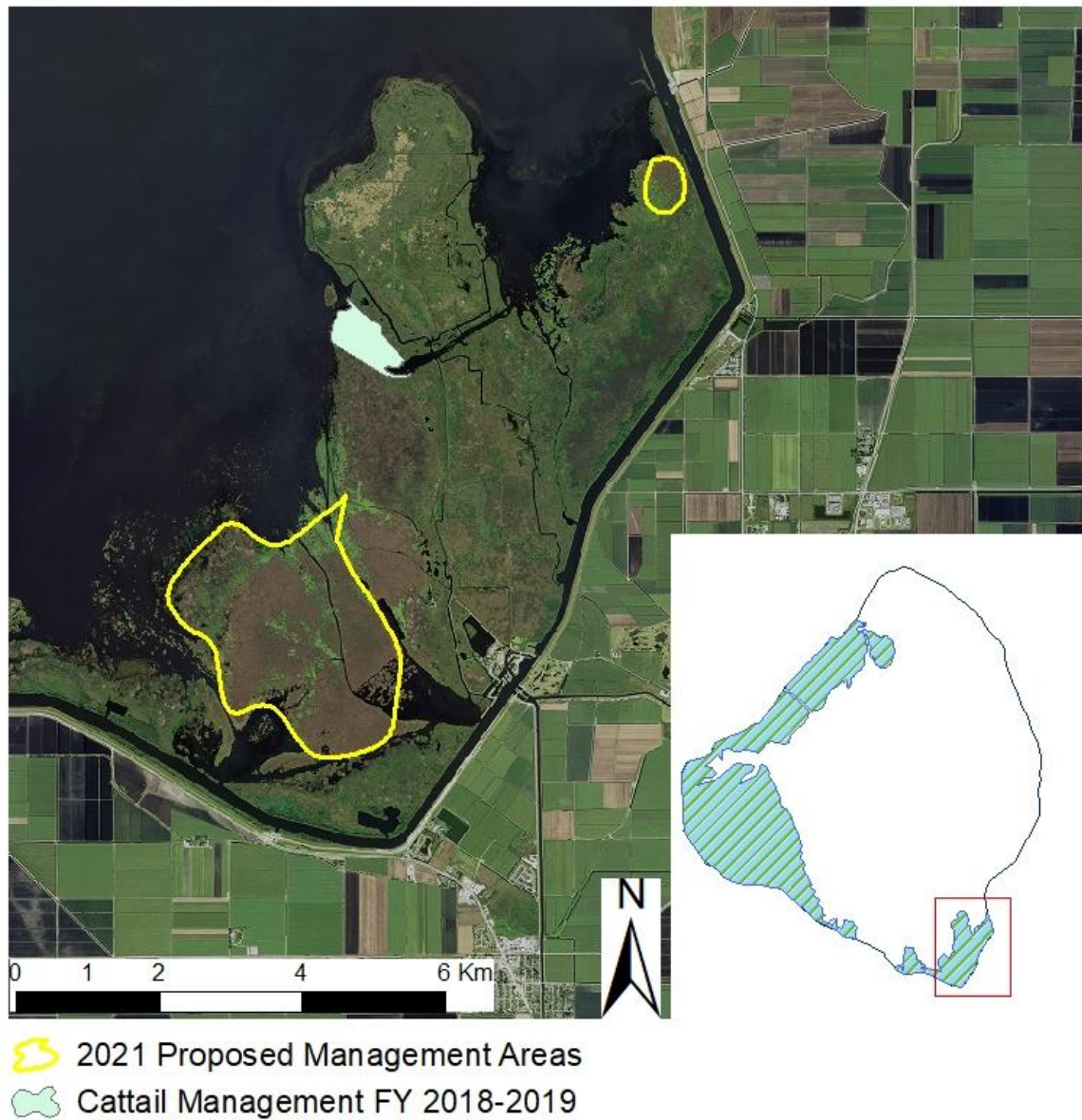


Figure 4. Aerial mapping identified 2 stands of cattail in the southern marsh of Lake Okeechobee totaling 1,824 acres.



Figure 5. Aerial application of herbicide (A) and prescription burn (B) are common methods for cattail management. Both techniques require use of a helicopter.



Figure 6. Post-management monitoring of previous cattail removal efforts shows the return of a diverse aquatic plant community composed of SAV and floating and emergent macrophytes

