

2018 Annual Summary Report Aquatic Management Program Sand Dam Reservoir

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SŌLitude Lake Management was contracted by the Sand Dam Reservoir Association to conduct an aquatic vegetation management program at Sand Dam Res. The 2018 program focused on the control of invasive variable watermilfoil (*Myriophyllum heterophyllum*). The management program was comprised of an herbicide treatment with the USEPA/MA DEP registered aquatic herbicide Clean Amine (2,4-D Amine) followed by a post treatment survey. An outline of the 2018 program along with our recommendations for ongoing management follows.

2018 PROGRAM TASK CHRONOLOGY

Project Task	Date Performed
File RI DEM pesticide use permit	April 4 th
Received approved RI DEM permit	June 14 th
Performed pre-treatment vegetation survey	June 15 th
Conducted initial herbicide treatment with Clean Amine	June 15 th
Post-treatment inspection	July 5 th
Follow up post-treatment survey	August 17 th

PRE-TREATMENT VEGETATION SURVEY

On June 15th a SLM Biologist performed a pre-treatment vegetation survey of San Dam Reservoir. The intent of this visual inspection of the dominant vegetation growth was to document pre-treatment plant growth conditions in order to have a baseline in which to evaluate the efficacy of the herbicide treatment, gauge non-target impacts, if any, and assess future management needs and/or necessary program modifications. This survey was conducted by traveling throughout the pond to record visual observations of the plant growth. In addition to the recorded visual observations random vegetation samples were collected throughout the pond to confirm plant species composition and visual surface observations. A list of the dominant plant species along with a general description of the observed distribution and abundance is provided below.

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Dominant Plants

- Variable milfoil (*Myriophyllum heterophyllum*)
- White waterlily (*Nymphaea odorata*)
- Yellow waterlily (*Nuphar variegatum*)
- Thin-leaf pondweed (*Potamogeton pusillus*)
- Bladderwort (*Utricularia purpurea*)

General Description

- Common/Dense - contiguous patches throughout Lake
- Sparse – scattered patches in coves
- Sparse – scattered patches in coves
- Common – scattered patches throughout Lake
- Common – scattered patches throughout Lake

HERBICIDE TREATMENT PROGRAM SUMMARY

Following the receipt of an approved RI DEM permit, the initial herbicide treatment was performed on June 15th to control areas of nuisance variable milfoil growth using Clean Amine (active ingredient 2,4-D). The treatment was conducted by diluting the liquid herbicide concentrate with lake water on board the treatment vessel (Airboat). The herbicide dilution was then injected subsurface using a calibrated chemical pumping system. Even application of the herbicide was achieved through the use of GPS.

Herbicide Applied	Application Date	Application Rate	Acreage Treated
CleanAmine	June 15 th	~5 gals acre	~46 acres

POST TREATMENT SURVEY AND 2018 MANAGEMENT RECOMMENDATIONS

On July 5th, a SLM Biologist performed a post treatment survey of Sand Dam reservoir to determine the treatment efficacy, and potential impacts if any on non-target species along with future management recommendations. Milfoil density was greatly reduced, with a few patches in the water column that did not appear healthy directly adjacent to the boat ramp. The plants had stripped stems and looked like they were dying. I returned 5 weeks later, and the milfoil plants had died. I did observe one small patch of milfoil regrowth near the dam. The native plant assemblage seemed to be unaffected from the treatment. Bladderwort and thin leaf pondweed appeared to be common in non-problematic densities throughout the lake. Although the treatment program worked well to control problematic variable milfoil during the summer season, we did observe some regrowth, therefore feel it necessary to continue monitoring and spot treating if necessary, in 2019. The recommended program modifications are outlined below.

- Continue to monitor nuisance variable milfoil growth in the spring
- File for RI DEM license
- Be prepared to perform small spot treatment of milfoil regrowth if necessary.

We feel that these proposed program modifications are necessary for the long-term maintenance of San Dam Reservoir recreational and ecological value. We appreciate the Associations business over the years and look forward to working with you again in 2019. If you have any questions about the 2018 program or our 2019 management recommendations, please do not hesitate to contact our office.