



2018 Annual Management Report

Barefoot Lakes

Firestone, CO

Submitted to:
St. Vrain Lakes Metro District
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Project Background

Barefoot Lakes is a housing development with three homebuilders located in Firestone, CO. The lakes are a main focal point, centered around nature and designed for use by the community with walking paths and options for future recreation. The West Lake is approximately 30 surface acres (SA) and the larger East Lake is about 50 SA. The lakes are separated by a short section of land with large equalization pipes between them. The lakes are filled from precipitation, runoff and from the St. Vrain River water rights are in priority. The lakes are being developed for recreational purposes including paddle boarding, fishing, and non- motorized boating activities.

These resources have a history of severe nuisance algae, aquatic vegetation growth along with cyanobacteria blooms. Water quality conditions vary significantly at different times of the year. The lakes are home to a healthy population of aquatic life including fish, birds, amphibians, and turtles.

The objectives of enhancing aesthetics, limiting nuisance algae and vegetation, and monitoring and treating cyanobacteria blooms have been completed through the use of nutrient remediation, contact and systemic herbicides, and algaecides as needed. In addition, rough fish (Common Carp) control started by physical removal in 2017 and stocking fish that will prey on juvenile carp in the future.

The water quality in the lakes has been monitored for the last few years in order to establish baseline conditions and track changes over time. The monitoring report that overviews water quality from 2018 has been provided under separate cover.

Aquatic Resource Management

During the 2018 season, SOLitude Lake Management visited the lakes approximately every 2 weeks from spring through fall to manage the water quality and appearance. At every visit, a visual inspection of each resource was completed, and conditions were noted.

Towards the beginning of the season, nutrient remediation was completed to reduce the excessive nutrients limiting the potential for algae and weed growth. During the season, the lakes were treated for aquatic vegetation as needed. Treatments were focused to preserve aesthetics while maintaining aquatic vegetation in some areas for fisheries habitat. Cyanobacteria growth was treated throughout the summer months. The majority of the cyanobacteria was noted on the windward shorelines of the East Lake. Based on visual observations, it appears that that the blooms were less severe and frequent than in previous years.

The aquatic vegetation was managed with contact one-time treatments conducted as necessary, focusing on the cove near Peninsula park. In addition, beneficial bacteria was applied in the shallow cove near Peninsula Park and in areas with high levels of organic sediments to cycle nutrients and reduce sludge accumulation.



At the end of the management season, the diffusers and lines for the bottom diffused aeration system were installed in the cove near Peninsula Park. The system install will be completed and started once power has been brought to the site and trenching for the sleeves is completed. This system will help improve water quality and circulate water from this shallow area of the lake.

Fisheries Management and Stocking

Based upon the results of 2017 biological survey, and goals to control rough fish and support the recreational fishery, multiple species of fish were stocked into the East and the West Lakes in the fall of 2018. The species stocked included Hybrid Striped Bass, Bluegill, Black Crappie, Fathead Minnows, and Triploid Grass Carp. Triploid (sterile) Grass Carp will continuously help reduce and maintain aquatic vegetation levels to limit growth and reduce the need to rely on aquatic herbicides. Fathead Minnows will help increase forage base for the predatory fish stocked and currently present in the lake.

Hybrid Striped Bass were stocked to serve as top-tier predatory fish to help reduce the reproduction survival success of juvenile Common Carp. In addition, as these Hybrid Striped Bass grow to a catchable size, fishermen can enjoy fishing this species.

A biological fisheries survey is recommended in the Spring of 2019 to continuously monitor fish health and growth. Additional removal of Common Carp, during the survey will help reduce the population and further improve water quality. Yearly fisheries management is recommended to continuously maintain low Common Carp population and increase the health of the fishery.

Conclusions and Recommendations

During the 2019 season, SOLitude biologists and technicians plan to use nutrient binding products and continue algaecide treatments as the season progresses. SOLitude biologists will continue to monitor any changes or cyanobacteria blooms, to adjust the management as needed to maintain the water quality, fishery and best appearance possible. In addition, we recommend a biological survey with rough fish removal in the Spring of 2019 and maintenance of the bottom diffused aeration system.

SOLitude Lake Management will continue to monitor and implement recommendations in the annual maintenance service to help further improve the ponds. SOLitude Lake Management® appreciates the opportunity to work on these ponds to maintain water quality and appearance for the community and safety of the environment.

