

Rocky Mountain Lake

Background, Long Term Issues & Trends

- The most notable quality of Rocky Mountain Lake prior to 2015 was the diverse and abundant rooted plant community which contributed to good water clarity.
- Eurasian water milfoil (*Myriophyllum spicatum*), an invasive weed, is one of the common rooted plants.
- There has been generally good water quality, but often exhibits conditions indicative of high algae/veg productivity (elevated pH, broad swings in dissolved oxygen).
- A fish consumption advisory due to fish tissue-mercury content was posted in 2004 and is still in effect. This will remain until further assessment deems it no longer necessary.



Developing Issues

Dissolved oxygen has been generally acceptable for warmwater fish in recent years, but not for trout. This is likely attributable to high organic loading with annual vegetation and algae die-offs. Deep holes on the east and west ends (1998 renovation) provide good temperature refuge in late summer, but not always with adequate oxygen levels.

Fish, Wildlife, & Habitat

Fish: While the lake sustains a healthy warm water fishery, trout fishing is also very popular. However, the combination of oxygen/temperature conditions are generally not meeting preferred levels to sustain a healthy trout population (cool enough combined with adequate oxygen).

Wildlife: A mix of waterfowl frequent the lake. This includes coots and pie-billed grebes which are common among the bulrush/cattail stands. A pair of ruddy ducks were spotted in 2013 (a rare site in Denver lakes and ponds). Cormorants and a mix of other ducks are common summer residents of the lake.

Habitat: There is a diverse and prolific community of rooted plants that is often covered with filamentous algae. This creates ideal habitat for macroinvertebrates (fish food) and fish, but potential issues with dissolved oxygen. However, phytoplankton was the dominant growth form in 2015. This resulted in relatively poor water clarity (as reflected by shallow secchi depth readings) and high pH (see figure to right).

Recommendations

- Install aeration to: (1) keep nutrients locked in the sediment - unavailable for algae; and (2) enhance conditions to support a healthy trout population. This equates to a combination of relatively cool (<72°F) and well oxygenated (>5mg/L-O₂) water.
- More efficient treatment and control of algae will decrease loading the sediments with organic material (seasonal algae and vegetation die back). This will also help maintain pH levels below the water quality benchmark and keep dissolved oxygen from dropping to levels stressful to aquatic life. The additional challenge is to perform vegetation control in a manner that does not result in phytoplankton blooms (as it did in 2015).
- Work with the state to re-assess fish tissue-mercury concentrations to determine whether the fish consumption advisory is still warranted.
- Rocky Mountain Lake has great potential to be one of the City's best in regards to lakeside wildlife habitat. This would require transitioning a significant buffer of turf grass to naturalized landscape to address habitat needs of a variety of wildlife.

Location: 4600 Lowell St
Surface Area: 24 acres
Max Depth: ~ 25ft
Primary Source Water: Clear Creek via Rocky Mountain Ditch
Intended Lake Uses:
Wildlife & aesthetics, fishing
Current Regulatory Issues^{1/}:
Mercury in fish tissue, pH, and dissolved oxygen

1/ Conditions exceeding state water quality standards.

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