Harvey Lake

Background, Long Term Issues & Trends

- Harvey Lake is maintained primarily by water from the Agricultural Ditch via Ward Reservoir just west of the Park.
- The lake inlet is on the west, while the outlet is on the north by northwest end. This creates poor water exchange throughout most of the lake.
- The lake was last renovated in 1996-97 when the islands were added.
- Harvey Lake has had slightly elevated arsenic levels over the past decade, but they are within compliance of water quality standards.
- The lake vegetative community has experienced dramatic annual shifts from dominance by rooted plants (prior to 2004) to dominance by phytoplankton (floating microscopic algae). This is driven by nutrient input and algae/plant control efforts, the dynamics of which impacts water quality of the lake (*see figure below*).

Developing Issues

Algae & Plants: During the past decade, plant and algae control has resulted in a ***phytoplankton*** dominated community (indicated by increasing ***chlorophyll-a*** levels), which equates to green, turbid water. Water clarity has been consistently poor over this period (*see figure below*). Phytoplankton dominated water columns are generally less supportive to most aquatic life than is a mix of aquatic rooted plants & phytoplankton.

Water Levels: Mid-summer water level two of the past three years was lower than in previous years. This may be attributable to drought and inflow limitations from the Salisbury Lateral through Ward Reservoir.

Location: 2120 S Tennyson Way
Surface Area: 5.2 acres
Max Depth: 9 to 10 ft
Primary Source Water: Clear Creek via Agricultural Ditch and Ward Reservoir #5 (private lake on Salisbury Lateral)
Intended Lake Uses: Aesthetics, wildlife habitat, fishing
Current Regulatory Issues[1/]: Iron

1/ Conditions exceeding state water quality standards.

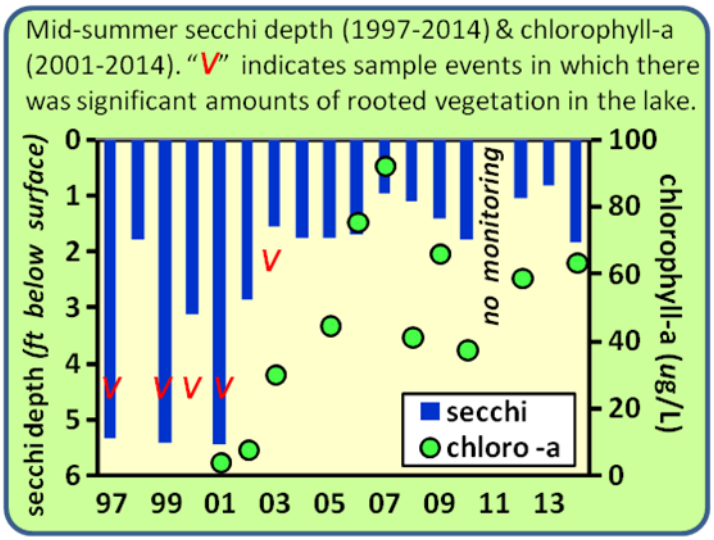
Updated December 2014; questions to: alan.polonsky@denvergov.org

Fish, Wildlife, & Habitat

Fish: The phytoplankton dominated water column is not conducive to healthy fish populations. Rooted vegetation provides seeds and habitat for macroinvertebrates (fish food) as well as fish cover. Harvey was stocked with channel catfish and trout in 2014.

Wildlife: The limited in-lake vegetative community also limits waterfowl food (aquatic insects, seeds). Long legged wading birds (herons, egrets), pelicans, and cormorants are fairly common inhabitants of the lake.

Habitat: The in-lake habitat includes mudflat-transition from the island to the deeper water, as well as a healthy emergent vegetation stand (cattails and bulrush) around much of the perimeter. The islands provide ***loafing,*** nesting, and feeding for some birds and potentially other types of terrestrial wildlife. Sporadically in the past, productive rooted vegetation stands provided cover and food for fish & waterfowl.



Recommendations

- Establish goals for the lake and manage the vegetation and algae accordingly. If waterfowl habitat is a high priority, allow for rooted vegetation and algae with up to 30% cover so as to sustain food and aquatic insect habitat. Increased vegetation could also enhance the fish community.
- Increase naturalized landscape around the perimeter to: reduce impacts of high maintenance turf grass (i.e., fertilizer); and increase quality of the surrounding terrestrial habitat.
- Improve water exchange by manipulating location of water inflows and outflows to and from the lake.
- Determine status of City's ability to monitor water quantity delivered through the various ditches supplying our lakes & ponds.