FAIRMOUNT PARK COMMISSION

Concourse Lake Sediment Redistribution

Philadelphia, Pennsylvania





top: Four of the wet meadow mix species that were planted–(clockwise from top left) buttonbush, pickerel weed, swamp milkweed, marsh marigold; above: Redistribution of lacustrine sediment

By creatively redistributing sediment, rather than dredging and placing on an existing, highly visible lawn, a degraded pond becomes an asset, providing habitat, improved park aesthetics, and cleaner water.

Concourse Lake is a 3.5-acre, concrete basin within Philadelphia's Fairmount Parks System. Over time, sediment has accumulated within the lake, significantly reducing the open water footprint and transforming much of the lake into a shallow pool. A one-acre island has formed in the western portion lake, which has a maximum depth of only four feet. The sediment issue continues, as stormwater from nearby, upslope fields, enters the lake through two inlets at its northwest end.

As an alternative to costly dredging and sediment disposal, Biohabitats helped Fairmount Parks to envision a less costly and more sustainable plan that involved redistributing the sediment within the pond. Biohabitats prepared construction plans for the redistribution, and provided construction management oversight of the contractor. The project involved dewatering the lake by pumping its water through a sediment trap, and then allowing it to flow into an outlet to an adjacent lake. After adequate dewatering, the bulk of sediment was redistributed to the west end of the lake. The sediment was then graded to establish a shallow marsh and a series of shallow pools that convey water around the existing island to the east end of the lake that is maintained as the deeper, open water section. This approach provides a longer flowpath, which equates to improved water quality. In addition, the increased diversity of the pond results in an increased diversity of flora and fauna in this park setting.

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