



# Debris and Sediment Removal

## Hydro-raking and Dredging to Restore Water Depth

There are several proactive management solutions that help slow a waterbody's aging process such as aeration, nutrient remediation and vegetative buffer management. Though these practices help keep your lake or pond healthy, there will still come a time when your waterbody will near the end of its lifespan. SÖLitude Lake Management® offers hydro-raking and dredging, two solutions that can help restore depth to your waterbody and years of life to your lake or pond.



### Hydro-Raking

The hydro-rake is essentially a floating backhoe equipped with a rake attachment that can be used to remove debris, decaying organic matter and aquatic vegetation. The hydro-rake is propelled by paddle wheels allowing it to work in shallow or sensitive shoreline areas that are typically inaccessible with conventional equipment.

The hydro-rake is ideal for routine beach and swim area maintenance, but can also be used to remove undesirable emergent plant growth such as cattails and Phragmites. Different rake attachments can be used to provide targeted sediment removal, establish boating channels or remove lily rhizomes. Removing plants and debris will help to reduce the overall nutrient load, minimizing common water quality issues like low dissolved oxygen, foul odors and nuisance algae blooms.

## Advantages of Hydro-Raking

- Maintains ideal oxygen levels throughout the waterbody's layers
- Saturates bottom sediment with oxygen with the potential to remove all organic muck build-up
- Creates balanced water quality conditions that are less conducive to algae, cyanotoxins, weeds, and bad odors
- Reduces reliance on chemicals, with the potential for no chemical use over an entire season
- Has a "supercharge effect" on combating bottom-loading of nutrients (often the major source of algae)
- Supports beneficial bacteria, microbes, and native plant and animal life





## Dredging

While dredging should be considered as a last resort, it may be the only solution in situations where sediment has built up to the point that it can no longer retain water. There are multiple dredging options available that can accommodate various properties, environmental restrictions, budgets and waterbody types.

Hydraulic dredging and mechanical dredging are two excellent management services used to increase depth and remove nutrient-heavy sediment from lakes and ponds. Hydraulic dredges are effective in moving large volumes of organic and inorganic sediment by utilizing a rotating underwater cutter and pumps to create a liquid slurry, which is then transferred to a disposal site via a floating pipeline. Mechanical dredges use buckets to excavate consolidated sediment and transfer it to barges or trucks for disposal or beneficial reuse. Though these solutions are costly, the investment is well worth it and can give years back to your waterbody.



## Advantages of Dredging

- Increases volume and depths to 15 feet or more
- Removes nutrient-heavy sediments
- Eradicates deep-rooted plants and debris
- Clears selective areas such as beaches, docks and boating lanes
- Restores stormwater detention capacity and increases flow in channels
- Disposes of contaminated sediment and wastewater
- Offers several methods of sediment removal to fit every waterbody and budget
- Resets the lifespan of a waterbody

## Prolong Your Waterbody's Lifespan

In order to prolong the lifespan of your lake or pond, it's always best practice to implement proactive management solutions like nutrient remediation, aeration and buffer management. However, due to the aging process of all waterbodies, there will come a time when hydro-raking and dredging will be needed. After exploring the advantages of both hydro-raking and dredging, speak with your lake or pond management professional to determine the right solution for your unique waterbody.