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Hilltop Lakes

This report addresses invasive weeds and mitigating treatments in Mirror, Swan, Tonkawa, Cherokee and Golf Course # 14 lakes and ponds for Hilltop Lakes Inc. (Client), 3 Hilltop Drive, Hilltop Lakes, Texas 77871.

Below is a list of invasive plant types in each lake with pictures. Multiple non-toxic herbicide treatments were scheduled and administered 2 weeks apart to ensure proper water quality balance and maximize effectiveness of the herbicides to independently address each invasive plant type.

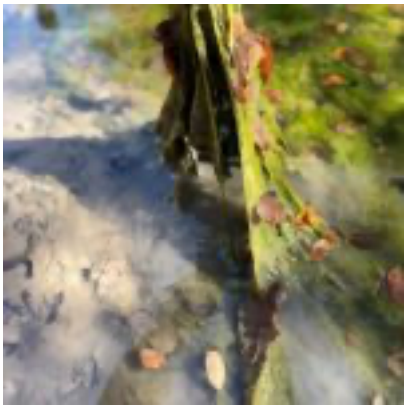
Mirror Lake

The majority of the weeds in the lake were comprised of Nitella, Bladderwort and Bushy Pondweed. Pondweed was treated with Chelated Copper Complex known as Harpoon, Nitella was treated with Copper Sulfate and Bladderwort with a Flumioxazin based product known as Clipper.

Nitella

Bushy Pondweed

Filamentous Algae



Bladderwort

Swan Lake

We recommended treatment for Swan Lake be postponed until Spring 2024 (March/April) when the plant biomass is reduced. Colder weather should reduce biomass by 70-80% and during the following spring of 24' while the plants are entering their most active growth phase, we then treat at a reduced rate to maximize the plants response to treatment at one third the cost. The algae currently growing on top of the hydrilla will also be reduced by treating it removing the false bottom it has to grow on. A spring treatment will be very effective for the entire year for rooted vegetation like Hydrilla. Client pre-purchased Fluoridone to avoid anticipated 2024 product price increases.

Vegetation after the first treatment year will be reduced by about 40% augmented by the Triploid Grass Carp introduced to control about 10-15% of that remaining 40% of vegetation, leaving the lake with about 30% total coverage. Year 3 the grass carp should begin to make more progress to control about 15-20% of the total biomass (30%), leaving the lake with approximately 10-15% total coverage of weeds.

Grass carp should be periodically restocked every four years to ensure they maintain adequate control moving forward.

The Chara is a species of macro algae that gives the impression it's a rooted weed but responds very well to algaecide products like copper sulfate.

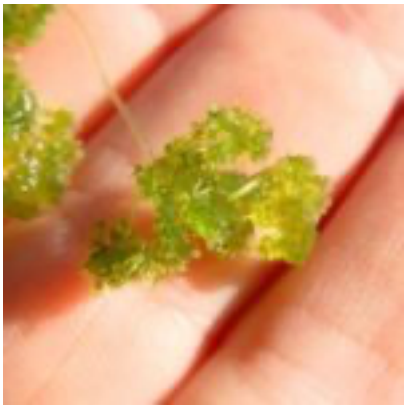
Chara

Hydrilla

Tonkawa Lake

Approximately 90% of the vegetation in the lake was comprised of Nitella algae which was treated with Copper Sulfate. Small patches of Hydrilla near the boat ramp was spot treated with a granular Harpoon. Sporadically the lake had pockets of Coontail which was treated with liquid Harpoon.

Nitella



Hydrilla

Coontail

Kickapoo Lake

At the time of the inspection no invasive vegetation was present and required no action.

Golf Course Lake 14

Treatment for this pond was deferred to Clients Golf Course Maintenance Superintendent since the pond is used as a water source to water course greens.

Water Milfoil

Cherokee Lake

The majority of vegetation in the lake is Nitella covering about 60% of the lake. Sporadically mixed in is bushy pondweed that would need to be treated as well. Nitella grows strong in large mats, beneath the Nitella the bushy pondweed grows and as Nitella is controlled the bushy pondweed will begin to bloom and take over, this growth cycle requires concurrent treatment. Variable Leaf Pondweed is a good plant that provides cover for baitfish and predatory fish to hide in.

Nitella

Variable Leaf Pondweed

Bushy Pondweed

We recommend signage similar to TPWD be posted at all lakes to 1) Clean, 2) Drain and 3) Dry boats before accessing other lakes to prevent unnecessary transfer of invasive weeds like Hydrilla.

This report was prepared by:

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