



Richard Shanahan
Chair- Parks & Open Space Authority
Town of Branford CT

On 6/1/2021 The Pond and Lake Connection conducted a visual site inspection of the Branford Supply Ponds to identify any invasive aquatic plant species and/or nuisance native aquatic plant species. Please find our results below with a brief description of what our recommendations are to keep these ponds happy and healthy.

One invasive species was found in a few dense patches but it was also peppered throughout much of the waterbodies. Eurasian Milfoil (*Myriophyllum spicatum*) is invasive to the state of Connecticut although it is found in many of the waterbodies around the state and New England. All invasive species should be managed appropriately and quickly so that they do not become a much bigger headache in subsequent seasons.

However, the two most problematic species observed during our inspection were native. Both Coontail (*Ceratophyllum demersum*) and Duckweed (*Lemna* sp.) commonly become overabundant despite their native status and can cause many issues aside from the obvious detriment to aesthetics. An over abundance of plant material can cause large swings in Dissolved oxygen and PH from day to night which can increase the likelihood of a fish kill. It also reduces the predatory effectiveness of different fish species leading to lower growth rates and often stunted populations of sunfish and bass.

We estimated approximately 85-90% plant cover on these ponds and a healthy range as defined by the CT DEEP Fisheries Division is 20-40%. It is my recommendation to attempt to remove any and all invasive species and to reduce the overabundant Coontail/Duckweed to more appropriate levels by way of treatment with an aquatic approved product. This process requires substantial review by the state of CT DEEP and only products registered with both the DEEP and EPA will be permitted.

Depending on the desired level of management, the ponds could use anywhere from 2-5 inspection/treatments annually to maintain the proper amount of plant cover and to protect the native plants/animals that utilize this pond ecosystem. We are recommending 2 treatments in 2022 and any further treatments that season would be on an "on-call" basis. The permitting required for this work is through the CT DEEP Pesticide Division and generally takes several weeks to 3-4 months depending on how many peripheral reviews are required by other DEEP offices (NDDB-endangered species review, DPH- if in a drinking water supply watershed). We will take care of all aspects of the state permitting process. All of the products that we use for this type of work are designed and approved for use directly in lakes/ponds and have no ill effects on the fish, amphibians, birds, reptiles, humans or pets that utilize the ponds. We recommend starting the

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permitting process this Winter before January so everything can be submitted and reviewed/approved well before any treatments are needed in 2022.

I would also recommend a Diffused Air Aeration System for these waterbodies. This will further reduce the likelihood of a fishkill by adding oxygen throughout most of the season (April-October). It will also help reduce the amount of nutrients that are normally pulled out of the sediment during the summer months when anoxic conditions (no-oxygen) occur on the pond bottoms. This will help reduce the plant/algae growth while enhancing the ponds wildlife. An addition of Dissolved Oxygen can also aid in the degradation of muck by promoting natural beneficial bacteria to help decompose organic matter in the lake.

If anyone has any questions regarding these recommendations, please feel free to reach out to me at nick@thepondandlake.com. Please see a map below showing the distribution of major plant populations. Please note that many species are scattered throughout in addition to these areas of large infestation. Also provided is a quote for the recommended treatments and permitting. If you would like to explore aeration options, we would need to discuss installation locations and power supply options.

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