

# Naturalake Biosciences' Study

## Bill Tomlinson, Lake Doctors Inc.

### SUMMARY

**Size:** 1 acre

**Location:** Florida

**Issue:** Midge Fly Swarming

**Solution:** AQUABAC®xt

**Results:** 88.6 % control 22 DAT

### CASE STUDY OVERVIEW

Swarms of the non-biting phantom midge (Order: *Diptera*, Family: *Chaoboridae*) became a major nuisance for residential homeowners at the Preserve in Ponte Vedra Beach, Florida, beginning in the spring of 2022. The source of these infestations was one of the two community stormwater ponds, both of which were built in 2016. Swarming around Pond #1 restricted recreational activities and back patio use in the evenings. Efforts to control *Chaoborus* midges were immediately put in place with a local lake management company, The Lake Doctors, Inc., which recommended treating with AQUABAC®xt (supplied by Naturalake Biosciences - a division of Aquafix, Inc.), a Bio larvicide with bacillus thuringiensis var. israelensis (Bti) being the active

ingredient. Bti is considered an environmentally friendly alternative to chemical pesticides since it is highly specific to nuisance mosquitos, blackflies, aquatic midges, and flies and has no toxicity to humans. The larvicide application was made on May 17<sup>th</sup>, 2022, on Pond #1 with larvae counts being performed using a 6-inch square bottom sampler before and after treatment (n=5) in both Pond #1 and in a nearby reference Pond #2. The label rate for midge fly control using liquid AQUABAC®xt was followed at 1.0 gallons/acre (3.80 liters/acre) and applied to Pond #1. An 88.6 % decrease in larval counts 22 days after treatment was observed in Pond #1 with no living *Chaoborus* midges being found. The non-treated reference Pond #2 had an increase in larval counts by 18.5% with all larvae found to be alive. Stakeholders reported recreational activities were no longer hindered just days after the treatment. AQUABAC®xt can be used to effectively control *Chaoborus* midges.



Figure 1. Pictures of living (before) and dead *Chaoborus* midges (after) the AQUABAC®xt treatment.

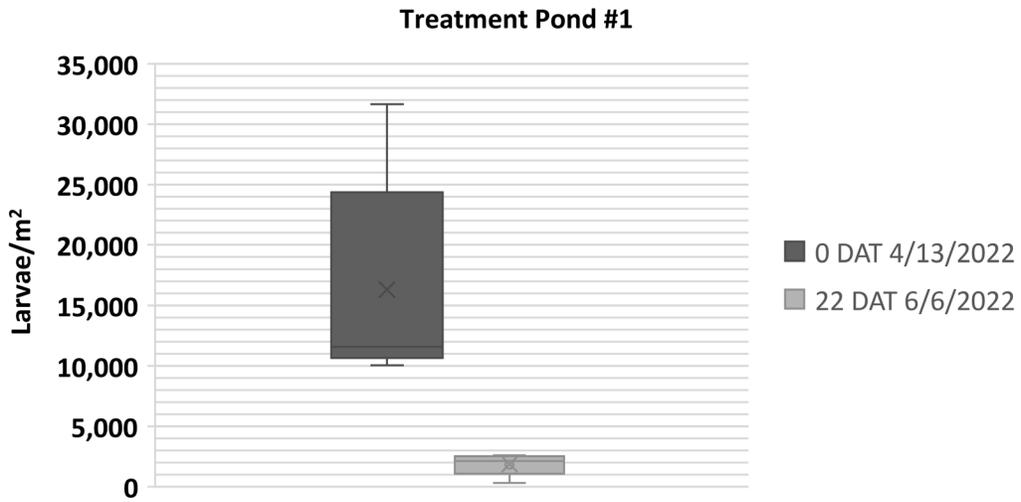


Figure 1. *Chaoborus* midges per square meter 0 and 22 DAT in Pond #1.

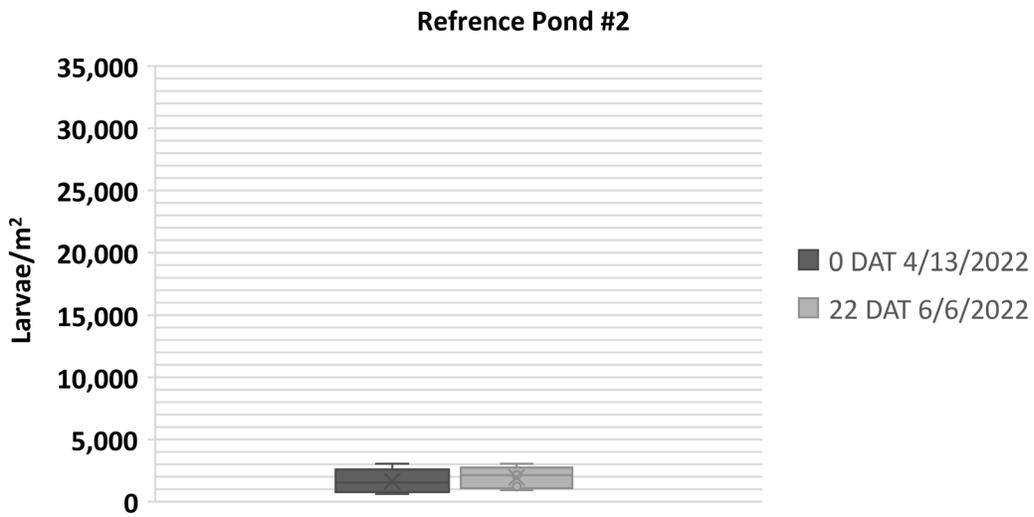


Figure 2. *Chaoborus* midges per square meter 0 and 22 DAT in Pond #2.