

2016 Ranger Report

Swimming Regulations and Statistics

On May 24th 2016, the Concord Select Board voted to reinstate last summer's regulations at the Town-owned White Pond reservation, including a swimming ban off, through December 31st of this year. Swimming from the Town conservation land adjacent to and essentially part of the Reservation is prohibited by the Concord Conservation Land Use Regulations. Restrictions including no biking on trails, no swimming for dogs, and a regulation requiring owners to keep their dogs on leash at all times, were put into place to prevent eroded areas from degrading the water quality of the pond and to preserve the beauty of the area for years to come.

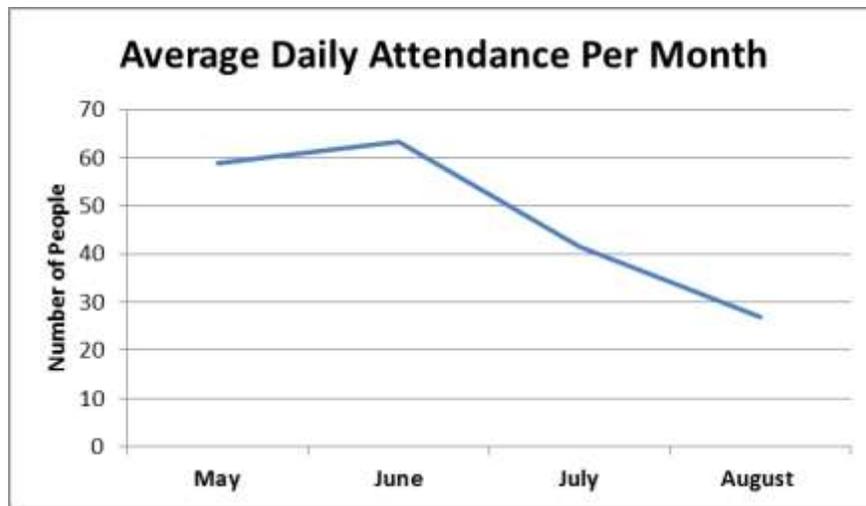


Figure 1: Average attendance at White Pond during the summer months

The attendance at White Pond throughout the summer of 2016 followed a similar trend to the previous year. The month of May averaged 58.8 visitors per day. As schools closed for summer vacation, attendance during the month of June took a slight upturn, averaging around 64.3 visitors per day. June also saw one of the largest traffic spikes of the summer on Father's Day, June 18th, with as many as 250 people visiting the pond throughout daylight hours. Conversely, as July began and news of the swimming ban spread, there was a large reduction in daily attendance. Down nearly 23 percent from the previous month, July averaged 41.5 daily attendees. This trend continued and, as the month of August came to an end, the daily attendance had decreased to 27 visitors a day from over 60 in the early weeks of the summer. From mid-May to the end of August, the average daily attendance dropped by nearly 60 percent. The Ranger Program proved to be successful for the second year in a row, as evidenced by this large decline in attendance. Not only did the reduction in traffic prevent erosion to the area, it also allowed for major native plant regrowth and a noticeable decrease in the amount of litter left on the Town lands.

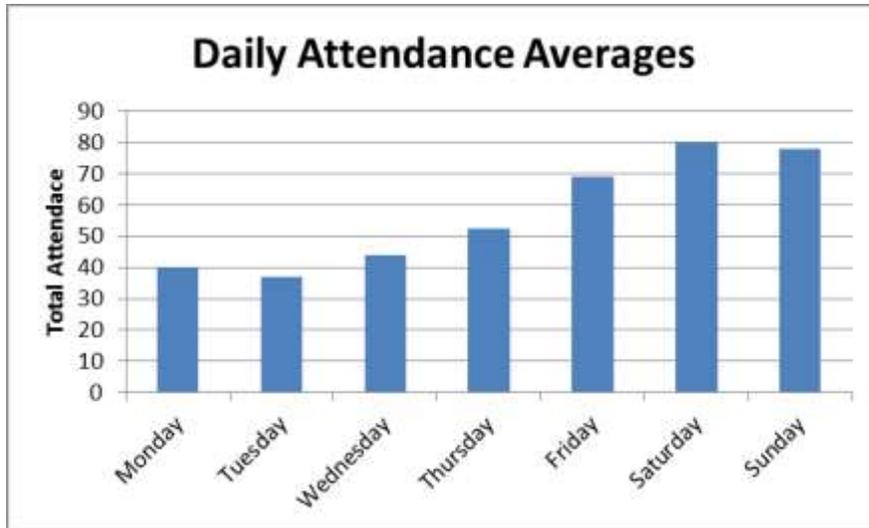


Figure 2: Average weekday attendance totals for White Pond

Similar to last year, Fridays and weekends were typically the days with the largest amount of activity during any given week, topping out with averages over the entirety of the summer nearing 80 pondgoers per day on both Saturday and Sunday. On specific days with a lower average of visitors to the pond, Rangers made use of their time by pulling invasive plants that pose a threat to the aquatic and terrestrial habitats, picking up litter, and maintaining the White Pond trails.

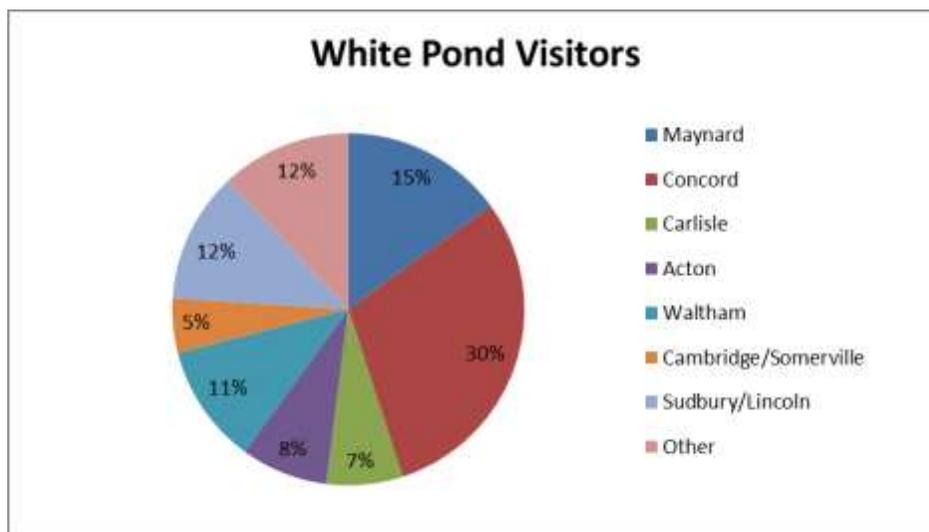


Figure 3: Breakdown of the residential locations of White Pond's visitors

When broken down to place of residency, the visitors to White Pond are largely from Concord, making up over 30 percent of the total attendees. However, in comparison to last summer, there appears to be a slight increase in nearby out-of-town visitors. Local towns such

as Maynard, Carlisle, Acton, Sudbury, and Lincoln make up nearly half of the total visitors to the pond.

Although mostly disappointed, the public was generally understanding of the reasoning behind the swimming restriction. Visitors who came with the intention to swim often stayed to enjoy the view. If pondgoers were adamant that they swim, the Rangers recommended alternative swimming locations such as Walden Pond. Many pondgoers were invested in the preservation of White Pond Reservation. While strong opposition to the swimming ban was not uncommon, the overall general reaction from the public was one of acceptance and cooperation.

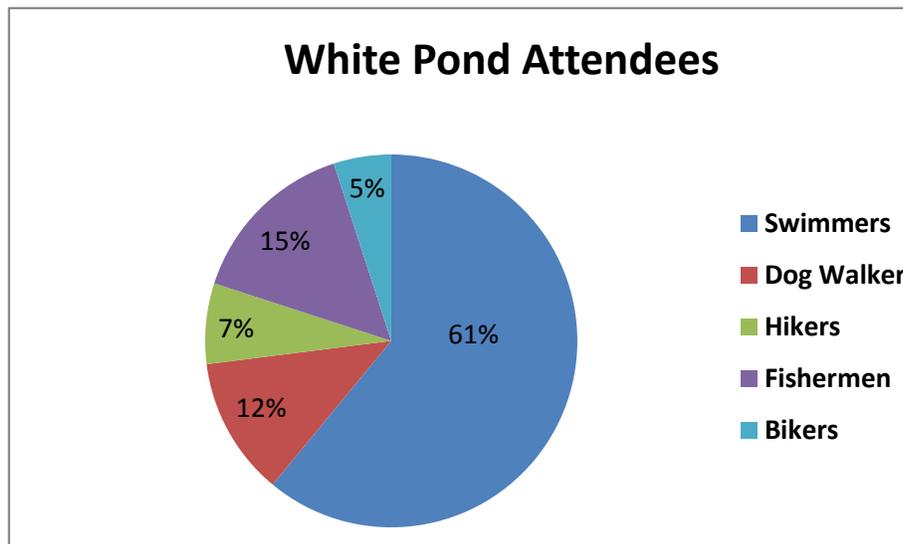


Figure 4: Breakdown of attendees' activities at White Pond during the summer

While White Pond mostly attracts those who come with the intention to swim, that is certainly not the lone activity at the pond. In fact, as shown in *Figure 4*, dog walkers, hikers, fishermen and bikers make up over a third of White Pond's attendees. While the number of swimmers, hikers, bikers, and fishermen decreased, dog walkers visited the pond at a fairly level rate throughout the summer, consistently comprising approximately a sixth of White Pond's visitors during any given day.

Dog Walkers and Bikers

Owners letting dogs off leash was the most common violation that occurred this summer. While there are signs clearly stating that dogs must be kept on leash at all times, people had to often be reminded, and dog walkers usually reacted with negativity towards this restriction. Off leash dogs typically run up and down slopes, causing erosion and contributing to the degradation of the water quality of White Pond. Having Rangers present helped to

contain this concern and prevent owners letting their dogs unconsciously contribute to harming the area.

The activity of biking saw a larger increase at the pond this summer. Those who biked passed the signs were informed that there were no bikes allowed on trails do to the erosion they can cause. Bikers were understanding, but suggested the Town put in place bike racks at the start of the trails for those who had biked to the pond and were unaware of the restriction before they saw the signs. The Town is currently looking into the installation of bike racks.

Birds

There is a plethora of birds inhabiting White Pond Reservation. There have been confirmed sightings of the following: great blue herons, mallards, double-crested cormorants, American goldfinches, American robins, red-tailed hawks, bald eagles, great horned owls, barred owls, Baltimore orioles, orchard orioles, eastern bluebirds, American and fish crows, common blue jays, Carolina wrens, downy woodpeckers, Canada geese, hairy woodpeckers, belted kingfishers, northern cardinals, pileated woodpeckers, red-winged blackbirds, tufted titmice, and many more.

The great blue herons are one of the ponds most common visitors and are certainly a magnificent sight to see. They can frequently be found at White Pond with sightings nearly every day. These large blue-grey birds are often seen fishing standing still on the edge of the water before they strike. White Pond is home to both great horned owls and barred owls. The Belted Kingfisher is a familiar sight at White Pond during the past several years. These beautiful blue and umber colored birds are often sighted plummeting down to the water as they spot their prey and then quickly flying off to find another perch. In addition to these wonderful birds, there have also been sightings of an adult bald eagle at White Pond. The eagle does not appear to have a nest at White Pond, but it has been seen flying over the water and perched in the trees several times in May, June, and July.

Animals

Many animals have made their home at White Pond Reservation. The most common of these include: eastern chipmunk, white-tailed deer, red fox, red and eastern grey squirrels, Mice, Skunks, Painted Turtles, Frogs, Northern Water Snakes and more.

A black squirrel, a melanistic variant of the eastern grey squirrel, was observed this summer in the White Pond woods. While there were numerous northern water snakes found at White Pond in previous years, they seem to be even more active this year. They can be sighted nearly every day swimming at the edges of the water as they hunt for food or lay in the sun. Typically, most of them found at White Pond are males and can range anywhere from 12 to 36

inches in length. However, the much larger female can also be sighted. The female northern water snake is slightly over 4 feet in length and has a greater diameter to its body in comparison with the male. Another reptile native to White Pond that can be sighted very often is the painted turtle. These brightly colored creatures can be found sunning themselves on logs or poking their heads out to look around Sachem's Cove.

Fish Life and Fishermen

When it comes to aquatic life, White Pond is home to smallmouth and largemouth bass, brown, rainbow, lake, brook trout, bluegill, pumpkinseed, and yellow perch. While most of the trout found at White Pond are stocked by the state, the small brook trout population is also attributed to a program at the Fenn School. Natural Science teacher Jeff Trotsky leads a group of students every year in raising brook trout from eggs in the classroom, which he obtains from a fishery on the Swift River in Belchertown, Massachusetts. At the end of the semester he and his students release the brook trout into Sachem's Cove at White Pond.

In addition to the other forms of life at White Pond, the fish that inhabit the water seem to be very healthy and active. Both types of fish can often be seen from the shore, swimming around the edges of the water looking for food. The most popular months for fishing were May and June, slowly trending downwards as the summer came to an end and the water became warmer, making it more difficult to catch fish as a large number of the fish population, especially trout, had gone out into deeper, colder water. May and June averaged 9.3 fishermen a day coming to White Pond, while numbers in July went down to around 7.1 and just above 6 fishermen a day in August. White Pond sees mostly catch and release bass fishermen using spin casting equipment. On the other hand, trout fishermen tend to take home their day's catch, but are limited to 3 fish per day. White Pond is listed by MassWildlife as one of the best places for rainbow trout fishing in Massachusetts.

Litter

The concerns regarding large amounts of litter left across the woods and shoreline at White Pond Reservation has seen a decline since the start of the summer. Pond visitors and residents have expressed concern over the trash that fishermen leave behind. While we occasionally pick up leftover fishing paraphernalia, the issue of littered hooks and line does not appear to be a recurrent problem. We have found that broken glass is the most common, as well as the most dangerous, littered item at the cove (since one broken bottle creates many shards). Cans, wrappers, and fishing equipment comprise roughly equal shares of the litter at White Pond. Every so often, numerous cans, bottles and trash are left in very significant quantities, undoubtedly from parties the night before.

Pond attendance is directly proportional to litter left at the pond. As traffic slowed throughout the summer, there was a corresponding decrease in the amount of litter found at the pond. At the start of the summer, a minimum of two to three sizeable trash bags were collected each week with regular overflow. By early August, that had dropped to about one bag per week.

Erosion Control and Water Quality

As part of the erosion control measures the Division of Natural Resources undertook last summer to preserve the White Pond area, snow fencing and cables were set up to close off heavily eroded trails as well as the installation of Coir logs and erosion control blankets to help easily eroded areas from degrading the water quality of White Pond. The temporary erosion control measures installed during the summer of 2015 held up very well over the course of the year.

Cables, snow fencing, and signs directing people to alternate routes of access were replaced and reinstalled in several areas which had fallen down since the previous summer. Overall, they held up fairly well over the past year. The heavily eroded trails that were closed off last summer have seen a noticeable regrowth in native plant life, showing that the cables, fencing and signs acted as a proper deterrence to keep people off eroded trails and allow for successful plant regrowth. The coir logs and erosion control blankets put into place last summer all held up very well with only a few minor repairs necessary, preventing runoff from finding its way into the water in several areas of concern.

As part of an initiative by the Environmental Protection Agency regarding concerns about cyanobacteria as well as the public's education on the matter, the Rangers and local residents participated in several informative seminars as well as taking part in a mobile testing lab. Senior Environmental EPA Scientist Hilary Snook gave instructions on water quality monitoring in relation to cyanobacteria, which White Pond unfortunately suffered from last summer. Beginning in late July, the Rangers generally took 3 samples per week at White Pond and sent them to the EPA for analysis. The sample locations were consistently taken from the deepest area of the pond at approximately 58 to 60 feet, as well as two samples from Sachem's Cove. All samples will be analyzed and compiled by the EPA in the fall.

During water sampling, two different devices were used. The Plankton Tow is a net used to collect water samples for observation under microscope. It is designed to collect microorganisms, algae and plankton. In line with the EPA's "cyanoscope" initiative, these samples will be evaluated for *Microcystis* cells, a genus of cyanobacteria. An integrated tube was also used for sampling. This clear transparent tube collects a 3 meter long (or, alternatively, 1 meter for use closer to the shore) water column sample. For this particular sample, the EPA

uses a fluorometer to analyze the water. Samples will be tested for chlorophyll and phycocyanin which, together, are strong indications of cyanobacteria.

Trail Maintenance

There was no need for major trail maintenance at White Pond this summer. Several fallen trees had to be moved to the sides of trails after storms, but there were no major problems. Signs marking the location of certain trails as well as parking had to be replaced several times during the duration of the summer; several hikers have recommended the implementation of more permanent metal signs. After an outbreak of poison ivy, the stairs down to Sachem's Cove as well as several trails were sprayed with a vinegar solution to eradicate poison ivy.

White Pond and Town Forest Lot Parking

Resident or no parking areas along Plainfield Rd, Dover St., Bolton St, Darton St, Shore Dr., Varick St, and Hemlock St have saw little unauthorized use this summer. When the Varick St. parking area filled up during busy hours, people either parked on Alden and Anson St. or in the Cummings Building parking area in Sudbury off Route 117. There are trails which lead down to White Pond from this area. The Concord Police Department and the Concord Rangers monitored the streets surrounding White Pond for violations every day.

Last summer, parking closures at Walden Pond meant some parking in the handicap spaces at the Town Forest Lots on Walden St. The issue was less severe this summer, with only 8 tickets issued for the entirety of the summer.

Invasive Plants

Large quantities of invasive plants were removed from White Pond Reservation during the summer of 2016. During days when the pond did not see much attendance, the Rangers picked numerous invasives that had popped up all over trails and the Town-owned land. Garlic mustard (*Allaria petiolata*) was very widespread to start the summer, but was successfully eradicated from the Town-owned land. Similar to last year, Oriental bittersweet (*Celastrus orbiculata*) is still the main invasive plaguing White Pond. However, the vast majority of it was removed early in the summer. While not as severe as garlic mustard or bittersweet, other invasives noted and removed at White Pond Reservation include glossy buckthorn (*Frangula alnus*), honeysuckle (*Lonicera spp.*), Japanese knotweed (*Polygonum cuspidatum*) and multiflora rose (*Rosa multiflora*). Large patches of invasives that remain have been marked by a GPS unit for future removal.