

**A Shared Future:  
A Comprehensive Vision For White Pond,  
Its Watershed, and Its Neighborhoods**

Prepared by  
White Pond Advisory Committee

Town of Concord, Massachusetts

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## Preamble

This Vision for White Pond is the result of many conversations with Concord residents, Town of Concord officials, White Pond users, Limnology experts and consultants, and past and present White Pond Advisory Committee (WPAC) members.

This Vision has been developed to guide the Town of Concord in managing White Pond, its neighborhoods, and its watershed. It is based upon the set of “Guiding Principles for the Development of a Long-Term Vision for White Pond” developed by the WPAC. The Principles can be found in Appendix A. Both the Principles and the Vision were derived from a number of sources including previous WPAC reports and recommendations, the draft White Pond Watershed Management Plan developed by ESS, long-term studies prepared by Dr. Bill Walker, feedback from the White Pond Forum held on 1/25/2015, and both formal and informal feedback from residents over the course of many years. Given that the WPAC was originally created to “review and analyze the concerns of the areas and play a leadership roles in programming the solutions to the recognized and accepted problems,” it is expected that a plan to realize this Vision will be developed and subsequently implemented by the Town.

Concord has a long tradition of placing a high value upon protecting its natural and historic features. This sense of public stewardship is part of the Town’s special identity. This Vision was developed to continue this tradition and ensure that future generations can also enjoy White Pond as a special place, just as we do today.

The WPAC would like to thank all those who contributed and otherwise assisted in the development of this Vision.

### White Pond Advisory Committee

Jerry Frenkil, Chair  
Deborah Ellwood  
Stephen Goodman  
Chris Leary  
Norman Willard

## Executive Overview

This Vision for White Pond has been developed based on a set of core principles enumerated in “Guiding Principles for the Development of a Long-Term Vision for White Pond” (Principles). Central to this Vision, and explicitly described in the Principles, is the goal of restoring White Pond’s water quality to previously measured levels and preserving the Pond and its Watershed for the enjoyment of this, and future generations.

The Vision addresses both Resource Management as well as People Management, and considers 4 key areas: Water Quality, Neighborhood Issues, Recreation and Stewardship, and Town support. The element of time is also considered as some items are identified as short-term concerns or opportunities while others are identified for the longer-term.

The ideas presented here are generally not new; most have been advanced before here or somewhere else. What is new, at least for White Pond, is the integration of several complementary ideas to address the various identified issues. This integration is important since so many of the issues are closely intertwined.

Key components of this Vision include the following:

- addressing high priority items such as erosion control and catch basin maintenance in the near term
- providing a controlled amount of public access for Concord residents to the White Pond Associates beach through an arrangement between the Town of Concord and White Pond Associates
- concentrating all public access to the White Pond Associates beach area
- new regulations establishing no-swimming from Town lands around White Pond
- limiting biking to certain trails in White Pond Reservation and Conservation lands
- new signage at access points describing what is and is not allowed, and where
- improved enforcement due to clarified regulations and additional enforcement mechanisms
- aligning of police patrol frequency with peak usage times
- seasonal parking bans on certain neighborhood streets
- formally adopting, funding, and implementing a clear, effective and cost-conscious water quality monitoring and restoration plan

The combination of restrictions and controlled public access is expected to have multiple benefits beyond restrictive measures alone. These benefits include reductions in usage of Sachem’s Cove, fewer interlopers from the Bruce Freeman Rail Trail, and securing greater support from the broad Concord community.

Both short-term (within 6 months to a year) and longer-term (more than a year away) actions to realize this vision are also described. Some of the actions, such as erosion mitigation, catch basin cleaning, and the establishment of parking restrictions can and should be initiated during this 2015 season.

## Introduction

White Pond is a Concord jewel. Henry Thoreau knew it and wrote about it [THOREAU], asserting that “perhaps the most attractive, if not most beautiful, of all our lakes” is White Pond. Current Concord residents know it too, as White Pond provides outstanding aesthetic and recreational opportunities for thousands of people. Boating, fishing, hiking, biking, skiing, skating, swimming, and wildlife viewing are just some of the pleasures of this great resource.

Yet, these activities also carry a risk to the Pond and its watershed of misuse and overuse. The Vision presented in this document attempts to balance the many competing interests while preserving White Pond for future generations to enjoy just as the current generation does. This necessary balancing is outlined in a set of “Guiding Principles for the Development of a Long-Term Vision for White Pond”. The Principles are succinctly described in Appendix A. The intent of this Vision is to formally set forth a thoughtfully coupled people management plan and a watershed management plan for White Pond for implementation by the Town of Concord.

This Vision addresses major concerns articulated and described by residents and collected over a number of years. While few of the concerns are new, some are chronic and others have recently grown in significance. Many of the concerns are inter-related, and for this reason individual or narrow solutions will have limited effect. With this in mind, the WPAC has crafted this Vision incorporating multiple interlocking elements with the expectation that a multi-faceted solution will be more effective in enabling Concord residents’ enjoyment while affording the kinds of protections and oversight the Pond deserves and must be provided through concerted efforts by the Town

The major concerns are listed and described in the following section. Next, the Vision is set out in detail in two parts: Resource Management and People Management. Both short-term actions and longer-term actions are identified.

## Major Concerns

A number of issues have been identified and have been grouped into 4 key areas: Water Quality, Neighborhood Issues, Recreation and Stewardship, and Town support. Each of these areas is described below. A table summarizing the issues can be found in Appendix B.

### Water quality

White Pond's clear and clean water is perhaps its greatest feature, providing a wide variety of recreational opportunities for Concord residents. Accordingly, restoring and maintaining White Pond's water quality is a Principle and therefore a key issue. Thanks to a long-term monitoring effort by Concord residents Dr. Bill Walker and Judith Sprott, we have a detailed record documenting key parameters such as dissolved oxygen, temperature, and especially transparency. For example, Figure 1 below presents Secchi Depth measurement for the past 27 years [WALKER], with water quality trending negatively for the last dozen years clearly indicated.

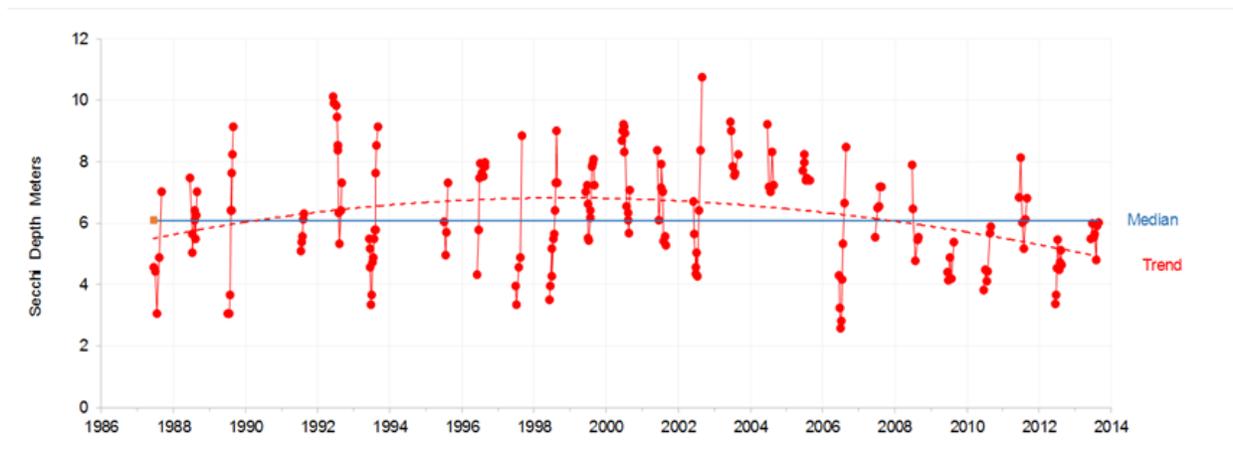


Figure 1: White Pond Long-Term Trends in Secchi Depth, June-August 1987–2013

A variety of issues have been identified related to White Pond's water quality including bank erosion, trash, and lack of public toilets [ESS]. Concerns over the effects of domestic animals, particularly horses and dogs, have also been raised. Additionally, as water levels have recently fallen to the lowest levels in recent memory, concerns have arisen related to the amount of water being pumped from the nearby White Pond well.

Public health issues are also potentially at play, especially related to the presence of blue-green algae, or cyanobacteria. While it is unclear whether or not blue-green algae is currently present in the Pond, it has been observed in minute quantities in the past [WALKERPLOETZ] and New England kettle ponds have proven to be particularly susceptible to this type of algal bloom [CAPECOD]. The public health concerns are potentially serious and range from dog fatalities [CLIFF] to a suspected link to ALS, also known as Lou Gehrig's Disease [SCIAM].

Another potential concern is water level. White Pond’s water level has been observed to vary dramatically over the years as shown in Figure 2 [WALKER]. In the last five years alone we have observed both the highest and lowest levels in recent memory. During this same period of time, pumping rates from the White Pond well increased substantially, more than doubling the previous maximum pumping rates [ESS]. This suggests that groundwater withdrawals may be affecting water levels.

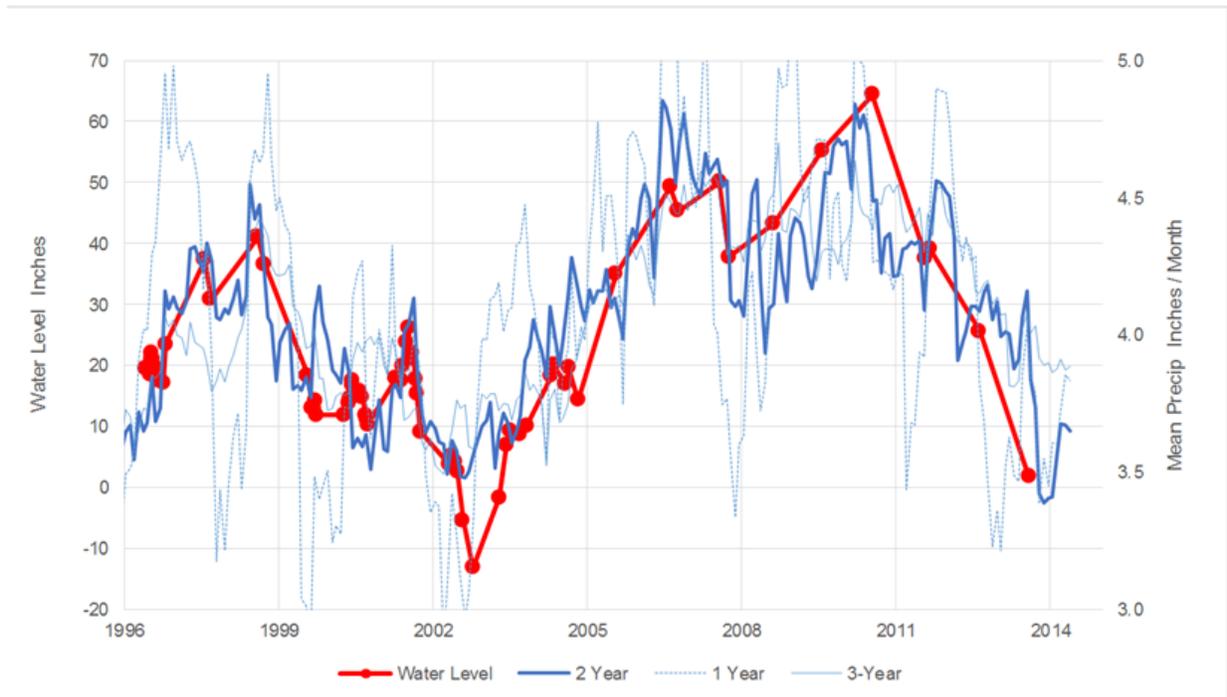


Figure 2: White Pond Water Level vs. Precipitation 1996–2013

While it appears that the water level strongly correlates with precipitation, the effect of pumping from the White Pond well is not well understood. Prolonged periods of extremely low water level could have adverse effects on water quality and especially aquatic life.

### Neighborhood Issues

White Pond is abutted by residential neighborhoods, either directly or indirectly, on all sides. Thus, people accessing White Pond must necessarily pass through these neighborhoods, some of which are reached only by private ways. For example, to reach the Varick Street trailhead on Town Conservation Land, one must first follow Dover Street – a private way – until it turns into Varick. At times this traffic can be substantial for a small residential neighborhood street with no sidewalks, and speeding is common.

[RASMUSSEN]

Parking by non-neighborhood individuals, particularly, but not only, on Anson and Alden streets, has been a major nuisance, as nearby streets have become congested with cars from swimmers accessing the Pond from Town Conservation land and, in some cases, through private residential property. The number of cars parking on these streets has also raised public safety concerns due to blocked sight lines along Plainfield Road and speeding on Dover Street. Littering is common. Trespassing by and personal confrontations with swimmers crossing private property have been reported to the WPAC.

A number of these problems are increasing in severity due to the increased general public awareness of White Pond. In particular, the number of cars parked in adjoining neighborhoods has risen substantially in recent years as have the number of swimmers from Town lands. These increases appear related to the Internet, social networking and mobile technology – White Pond is easily observed from Google Maps, and can be found on the Internet in multiple listings of favorite swimming holes. [TOP7] [50SWIMS]

It should be noted that these issues are not limited to Concord neighborhoods. Sudbury residents at Frost Farm, near the southwest corner of the pond, have reported similar issues especially noting speeding and nighttime disturbances. [MURPHY]

The imminent construction of the Bruce Freeman Rail Trail (BFRT) threatens to exacerbate many of these issues since tens of thousands of additional trail users [BFRT] are anticipated and could easily view White Pond as a point of destination off the trail.

### **Recreation & Stewardship**

White Pond and its surrounding lands are major recreational assets for Concord citizens for a wide variety of activities including boating, fishing, hiking, picnicking, and especially swimming. Currently, swimming is permitted at the White Pond Associates (WPA) beach, but in-season only (roughly Memorial Day to Labor Day). While not formally restricted elsewhere, a sign at Sachem's Cove asserts that swimming is not allowed. Differences between Town Conservation land and Town Reservation land are not well documented or well understood by residents. This confusing patchwork of constraints leads to a variety of problems, including

- Sachem's Cove and adjoining public lands having become an unofficial swimming beach
- Parking and traffic congestion on neighborhood streets for swimmers headed to Sachem's Cove
- Trespassing across private property to swim in the Pond.
- Littering along both public and private shore lines and lack of pick up and collection of litter
- The use of the adjacent woodlands as a toilet due to the lack of public facilities
- Erosion in multiple areas due to uncontrolled access
- Lack of regulation enforcement

- Resident frustration due to geographically and seasonally limited access (no swimming from the WPA beach before or after the Memorial Day to Labor Day season)

It should be noted that the White Pond area contains both public and private landowners (including WPA, the Town of Concord, and individual homeowners), all of which are responsible for maintaining their own portion of the shoreline and watershed.

In short, the benign neglect of the complicated issues threatens the very qualities that make White Pond such a major Concord asset. Unless regulations are clarified and made consistent across abutting Town properties, enforcement cannot be effective. And without effective enforcement, stewardship efforts are likely to fail and water quality and recreational opportunities will continue to be compromised.

### **Town Support**

Several local organizations are active in managing and/or advocating for White Pond. These include WPA (a private beach club, open to Concord citizens but subject to a membership limit), WPAC (a town advisory committee reporting to the Board of Selectmen), and Friends of White Pond (FWP, an advocacy group that publishes an annual educational newsletter *Ponderings*). However, little in the way of town services has been provided to the area in recent years. For example, water quality monitoring has been performed for almost 3 decades entirely on a volunteer basis. Cleanout and maintenance of the catch basins on the boat ramp – a public way – in recent years has only been achieved with funding from FWP. A ranger program managed by the Department of Natural Resources and directed at controlling access from town lands was disbanded several years ago. Citizen petitions for limiting parking on Anson and Alden streets, despite following previously established town protocols, have yet to be acted upon.

This lack of attention and support has resulted, at least in part, in the growing water quality, neighborhood, and recreation and stewardship issues described above. These issues were clearly articulated during the recent Town Forum [RASMUSSEN] in which 130 Concord residents participated along with representatives from various Town departments. This important conversation emphasized the need for the Town to commit attention, effort, and both human and financial resources to effectively address these issues.

## Proposal / Vision

Our comprehensive vision for White Pond, its watershed and neighborhoods addresses two key inter-related management perspectives: resources and people. This Vision attempts to balance those perspectives as well as conflicts between various principles.

## Resource Management

The two key resources to address are White Pond's water and its Watershed. While clearly related, the two resources are distinct and deserve individual attention.

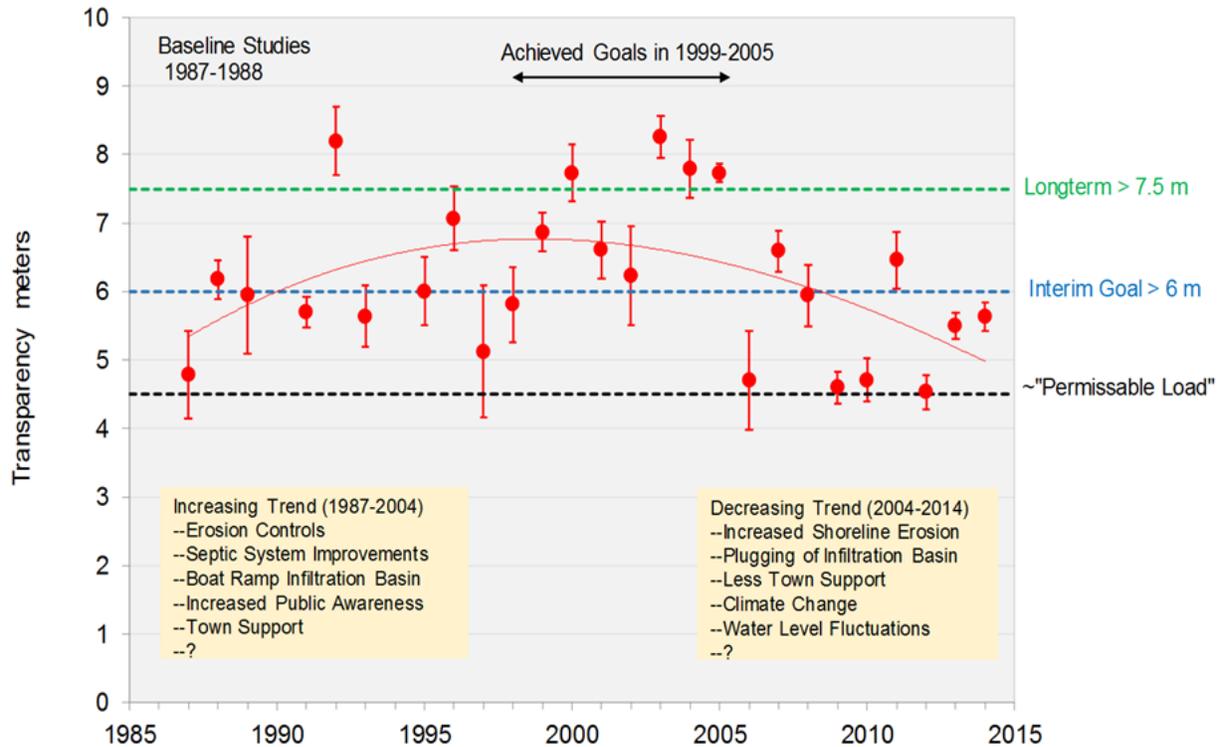
### Water

Perhaps the most significant attribute of White Pond is its water and Principle #2 is "to restore and maintain water quality to the highest previously measured levels". This principle acknowledges that White Pond's waters are not pristine, but nevertheless requires effort to battle degradation threats.

A well-known management axiom asserts that you can't manage what you can't measure. Effective monitoring of the Pond is thus necessary to assure a high level of water quality. Accordingly, we propose that concrete measurements goals be set and water quality be measured against those goals each year. This requires reasonable goal setting along with an efficient and effective water quality monitoring plan. More specifically, we recommend the adoption of Dr. Bill Walker's Water Quality Monitoring and Restoration proposal [WALKER]. He proposes using Secchi Depth Transparency as the key water quality metric and that the goal be the achievement of transparency depth of 7.5 meters – the measured transparency in the 2000 to 2005 time frame. These goals are illustrated in Figure 3 below.

His proposal is based on 27 years of measurements using the simple, low-cost Secchi depth measurement. Other metrics, such as phosphorous loading, are more complicated and costly and the related water quality goal derivation more complex. While additional measurements beyond Secchi depth would also be required, the measurement would be much less frequent, and less costly. Thus, measuring transparency better balances complexity, effort, and cost.

Under this proposal, transparency would be measured weekly as it has been for the last 27 years, thus ensuring data consistency. The effect of restorative efforts would be observed by comparing newly taken measurements to previous measurements. The decision to apply restorative efforts should consider whether or not the restorative goal has been reached as well as the existing trends. As will be described below, two high-priority mitigation items have been identified – erosion control and catch basin cleaning – that ought to have near term positive impacts. Whether or not additional efforts are necessary can be directly judged by comparing the measurements and trends taken after the mitigation efforts have been completed to the historical data.



Symbols	June-August Mean Secchi Depth +/- 1 Standard Error	Approximate Percentile vs.
Solid Line	Long-Term Trend	Other Deep Lakes in Northeast
Dashed Lines	Goals Consistent with Anti-Degradation Standards for High-Quality Waters	
Longterm Goal	>7.5 meters or 25 feet, Best Observed over 3-Year Period (2003-2005)	91%
Interim Goal	>6.0 meters or 20 feet, Best Observed over 7-Year Period (1999-2005)	74%
Historical Min	4.5 meters or 15 feet, Approx. Equivalent to "Permissable Load"	45%

**Figure 3: Proposed Restoration Goals for White Pond Water Quality**

In the short-term, water quality will continue to be monitored on a volunteer basis as has been done for a number of years.

In the longer-term, a succession plan is needed to ensure the continuation of regular monitoring consistent with past practices. This perhaps can be accomplished with volunteers, however, some town support may be required depending upon whether or not existing practices need to be expanded.

### Watershed

While the monitoring program proposed above will provide data indicating the water quality of White Pond, it does not directly address how to improve it. Efforts to improve the water quality involve appropriate management of the watershed.

The consensus opinion is that the single most important item in restoring White Pond's water quality is the stabilization of areas of recurring erosion [ESS]. Thus the mitigation of

existing eroded areas is a top short-term priority while the establishment and maintenance of erosion controls throughout the watershed is a long-term priority.

It is expected that people management will play a large role in controlling erosion, and that topic will be addressed in the People Management section of this report. Nevertheless, part of controlling erosion will be limiting public access to those areas of the shoreline particularly sensitive to erosion. With this in mind, the WPAC proposes two changes to public land policy in the White Pond watershed:

1. Swimming should be banned from town Conservation Land in the watershed.
2. Town Reservation land in the watershed should be converted to Conservation land with a similar no-swimming restriction. For the purposes of erosion control as well as enforcement (described below in the Enforcement section), it may be sufficient to convert only the portion of Reservation land that immediately abuts the water.

It is noteworthy that the conversion of the Town Reservation land to Conservation land has been recommended to the Town multiple times in the past by various Town committees and task forces: 1992, 2002, 2004, 2005, 2006, and 2015. [WPRTF1992] [WPRTF2002] [CONCORDOPENSOURCE2004] [WPRTF2005] [WPPMP2006] [CONCORDOPENSOURCE2015]

The Town Conservation and Reservation lands, illustrated in Figure 4, together contain an extensive trail network that is utilized by swimmers, hikers, runners, bikers, skiers, dog walkers, and horse riders. Usage of these trails is expected to increase significantly with the construction of the BFRT [ESS]. In anticipation of the extensive and growing usage of these trails, the Town should evaluate the existing trails in light of the problems usage presents to White Pond's water quality, the Watershed, and the surrounding neighborhoods. In particular, the town should evaluate the existing trail network in the Conservation and Reservation lands to determine which trails should be closed, re-routed, reconstructed or designated for particular usage without attempting to broadly eliminate any particular user. For example, trails could be designated to include biking or horse riding while other trails could be designated for hiking only. Biking restrictions should be considered on certain trails in order to minimize trail erosion and to discourage "leakage" from the BFRT towards the pond. While current BFRT plans include important fencing along substantial portions of the rail trail near White Pond, it will nevertheless be possible for bikers to enter the White Pond trail system from the BFRT and easily find their way down to the Pond. Such a limited biking restriction would not prevent hikers from reaching the Pond, but it would tend to minimize bicycling induced erosion. Once individual trails are classified according to usage, signage will be needed to clearly alert trail users of the limitations. This evaluation and designation effort should be undertaken by the Town's Trails Committee working together with the WPAC, and should be initiated in the short term.



**Figure 4: White Pond and adjacent Town Conservation and Reservation lands**

In addition to erosion mitigation, another short-term priority is the annual cleaning and maintenance of the boat ramp catch basins and underground stormwater filtration structures. Cleaning is an easy and inexpensive action, but due to jurisdictional uncertainty has been rarely performed thus increasing the short-term importance of this action. However, as with erosion controls, on-going maintenance is also a longer-term priority.

One potentially new issue to monitor is water level. Should the White Pond water level continue to fall, the effect of pumping from the nearby White Pond well should be studied to determine the extent to which it affects the water level. It may be necessary to reduce the pumping if it is determined that the withdrawals from the White Pond aquifer significantly contribute to the water level decline.

In the short-term, the Town should initiate an effort to stabilize areas of recurring erosion on public lands and the Town should direct the Public Works department clean out the catch basins. Additionally, the Town should revise and update the regulations concerning White Pond Conservation and Reservation lands to disallow swimming from those properties.

Longer-term, the Town should regularly check the condition of the previously implemented erosion controls and repair as necessary. Regarding catch basin maintenance the Town should definitively clarify who is responsible for the ongoing catch basin maintenance. Once the responsible party is identified – Town, State, or WPA – the Town should work with that party to establish a plan for annual catch basin cleaning along with a less frequent full maintenance check. Regarding White Pond water levels, a critical “minimum” level should be established and if the water level drop below that level, pumping from White Pond well should be reduced until the Pond water level rises above the minimum level.

### People Management

White Pond’s clean waters and beautiful setting draw people year round, especially so during the summer as it is a prime recreation spot. On hot summer days crowds appear on the shoreline and on the neighborhood streets, threatening the very qualities that drew them in the first place. Thus effective people management is essential for preserving White Pond’s attractiveness for future generations.



Figure 3: A typical summer day at the White Pond Associates Beach

### Key Concept

We believe that the key people management concept for preserving White Pond is to channel all swimming to one easily controlled area, while prohibiting swimming from all other areas – “tell them where they can’t go, but show them where they can go”. We feel that the “inhibiting this, but encouraging that” method will be much more effective than simply one of inhibiting undesired access, especially when considering the large numbers of users of the Bruce Freeman Rail Trail [ESS] that will be able to see the Pond from the trail. It should be noted that this general approach is commonly used to control human impact in sensitive natural areas by limiting access or activities to only a few specifically designated spots. For example, this technique is used to great effect in Baxter State Park in Maine [BAXTER] and portions of the White Mountain National Forest in New Hampshire [WMNF], among many others.

### Beach Access

Few options are available for providing controlled beach access. There are currently no public beaches on White Pond, although there are two private beaches: WPA beach by the boat-ramp and Dover Street Property Owner’s Beach on the Southern shore. Sachem’s Cove has been considered by some to be an option as it apparently was used as a public beach at some point in the past. However, we are opposed to the use of Sachem’s Cove as a public beach for a variety of reasons including the limited water exchange with the rest of the Pond (due to sand bar by the Cove’s mouth), lack of existing parking and access from public roads, lack of sanitary facilities, and difficulty of emergency vehicle access, to name a few. Additionally, creating new parking and public facilities in Sachem’s Cove would be in conflict with Concord’s sustainability principles, the fourth of which is to “reduce encroachment upon nature”. [CONCORD] There are cost considerations, as well, that need to be weighed.

As an alternative to Sachem’s Cove, we believe that providing some sort of public access to the WPA beach would be highly advantageous, provided that an appropriate partnership or arrangement could be worked out between the Town and WPA. Such a partnership would provide a number of significant advantages:

- WPA has had an effective operational infrastructure in place for many years. It would need to be enhanced to support public use, but that should be easier and less costly than establishing an entirely new and additional infrastructure.
- WPA has an existing parking lot that fills to capacity on only a few days during the summer.
- The WPA has a convenient access point – the entrance on Plainfield Road – that provides for easily controlled access management.
- The WPA has existing beachfront (north of the boat ramp) that is currently under-utilized in terms of providing approved beach access.
- The WPA has existing toilet facilities.
- Overall, this is the least impactful solution, makes use of existing resources and infrastructure, and best achieves Principle #3 “to preserve and protect the Watershed, its land, flora and fauna” and Principle #4 “... to sustainably maintain a

serene and natural environment ...” because little to no additional build-out would be needed (such as no additional roadways, paths, or paved parking lots.)

Currently, WPA controls access to their life-guarded beach by a 2-level method. To access the beach, one must be a member (with a membership card). Secondly, parking is limited to only those cars that will fit into the existing parking lot. Once the parking lot fills up, cars are turned away. While this does not affect “walk-ups” with membership cards, it nonetheless tends to minimize the peak number of swimmers. However, it will be important to include in a Town – WPA arrangement some mechanism to allow public swimming at the beach after the formal swimming season (Memorial Day to Labor Day) has closed, as there is substantial demand for swimming during the shoulder seasons in May and, especially, September.

Due to the substantial advantages described above, along with the well-established access controls, we believe this to be the best overall balance between our various Principles, as described in Appendix A. There are, however, significant issues to address, such as liability and costs. But an arrangement between the Town and WPA could take many forms. While it is outside the scope of this document to address financing, it is nonetheless worth noting that there are at least two potential sources of public funds to support a potential partnership: (1) Community Preservation Act (CPA) grants and (2) annual revenue from beach passes (described below).

As it will most likely take time to work out a mutually acceptable arrangement, this idea for Town-WPA cooperation is considered a long-term, but critically important item, as there do not appear to be any other good options.

### **Public Beach Pass**

Currently, as WPA is a private beach association, beach access is limited to WPA members. We envision that public access could be provided through a Beach Pass program administered by the town, as is the case in many other communities with local kettle ponds such as in Devens [DEVENS], Framingham [FRAM], Holliston [HOLLISTON], Sterling, [STERLING], and Wellfleet [WELLFLEET] to name a few. In general, a non-WPA member would need to obtain a limited-time beach pass from the Town; the pass would provide access to WPA parking and the WPA beach. However, once the WPA parking lot spaces designated for non-WPA members fill up, access would be closed to the Pond until spaces re-open in the parking lot. The pass would be obtained from Town hall so as to avoid money handling at the beach.

Two different types of passes could be made available by the Town: daily and weekly passes, for residents only. Non-residents would be directed to Walden Pond, through new signage at different points around the Pond.

Such a beach pass program would have numerous advantages:

- Access to the Pond would be provided to residents who don't want to purchase a full season pass from WPA, or who were not able to get a full season pass due to WPA's annual membership cap.
- The pass would provide a source of revenue to fund increased White Pond operational, management and maintenance expenses.
- The pass program itself would serve to "even-out" the peak loading on the pond, since it would require some effort and pre-planning to obtain passes thus limiting the number of spur-of-the moment Pond visitors on hot days that currently contribute to the parking and traffic problems.

Note that the beach pass, along with WPA membership, can be used as a control mechanism if it is found that the number of swimmers is negatively impacting the Pond – beach pass and/or WPA membership could be restricted.

This is another long-term item, as it is dependent upon establishing a Town-WPA partnership as described above.

### **Public Toilets and Trash Receptacles**

There are currently no public toilet facilities anywhere in the White Pond Watershed. Two private toilets – one for men and one for women – are present on WPA property, but they are only open and available for use during the WPA season from Memorial Day to Labor Day. However, the WPA beach area is used year round by swimmers, picnickers, fishermen, dog walkers and others despite the fact that the WPA beach is officially closed. Additionally, public trash receptacles are needed to prevent litter from accumulating along the shoreline and washing into the Pond.

Therefore, to maintain a clean and healthy environment, we recommend that the Town explore with WPA a mechanism by which to keep toilets and trash receptacles open and maintained throughout the year. This need will become exacerbated with the expected influx of visitors from the BFRT, as will be described in a subsequent section of this report.

### **Parking**

Swimmer parking would be limited to the WPA parking lot only. This limitation would serve to constrain the maximum number of beach goers at any point in time, thus preserving the current "beach experience" by preventing over-crowding. Seasonal parking restrictions would be placed on neighborhood public streets, such as Anson and Alden, whose residents request it. Parking would not be allowed at the Willard school unless the beach front "capacity" was expanded so as minimize the peak "swimmer density" in the limited beach front area.

Parking restrictions may be considered on other neighborhood streets such as Peter Bulkleley, Paul Revere, Longfellow, Jennie Dugan, Stone Root, and Indian Pipe provided that a sufficient number of residents on each street request the restrictions.

As some swimmers park at the old Unisys building across the town line in Sudbury, and reach the Pond by walking through the Frost Farm community, the Town of Concord should reach out to the Town of Sudbury to determine how best to address that parking situation.

The combination of these seasonal parking restrictions, along with clarified swimming restrictions from Town lands, may relieve some pressure on the limited parking at the Varick street trailhead. Those spots would no longer be occupied by swimmers thereby making them more available for other trail users.

These suggested parking restrictions are a short-term item and should be implemented as soon as possible. In the worst case, any lessons learned from the initial season's experiences with parking restrictions could be used to fine-tune the restrictions in subsequent seasons.

### **Bruce Freeman Rail Trail**

The BFRT is already experiencing thousands of users on completed sections [BFRT]. Hence, it is not unreasonable to expect that the BFRT will similarly bring thousands of additional visitors to the White Pond area, many of which will find the clear waters of White Pond to be very enticing. Given the length of the BFRT, it is also to be expected that many of these visitors will be from out of town and looking for a swimming destination. Thus it is prudent to explicitly address non-resident swimming expectations.

Essential elements for dealing with the BFRT crowds will be fencing, signage, and enforcement.

The current build plan for the BFRT includes substantial fencing along the majority of the Pond side of the trail in the vicinity of White Pond. Where the Pond is visible from the trail, a 6-ft high wrought-iron style fence has been included in the trail design by the BFRT Advisory Committee (BRFTAC) in order to preserve the attractive vista from the trail while preventing breaching of the fencing. However, as noted above in the Watershed section, the current plan for fencing does not inhibit bikers from accessing the trail system from Town Reservation land. Thus, additional mechanisms, such as biking restrictions on White Pond Reservation and Conservation land are recommended (described above in the Watershed section).

Additionally, signage should play a major role in minimizing impact from BFRT users. The signs should clearly state that (a) biking is permitted only on Town Conservation and Reservation trails explicitly marked as such, (b) access to the Pond is not allowed for non-residents, except for boating from the public boat ramp, (c) access for residents is only allowed from the WPA beach, but that beach passes are required, and (d) non-resident swimmers are directed to Walden Pond.

Given the huge numbers of expected trail users, enforcement of established limits on accessing the trails, the Pond, and where visitors can and cannot park will be essential to

maintaining a safe, clean, and enjoyable experience for all visitors (as envisioned by Principle 4). Enforcement of all restrictions will be simplified with clear, consistent regulations and clear signage describing those regulations, as described above in the Watershed section.

In summary, the town should adopt these recommendations for fencing and signage in the long-term, as part of the BFRT construction.

### **Dogs and Horses**

The White Pond area – the Watershed and White Pond itself – is a popular destination for dog and horse lovers. Many people walk and run with their dogs through the woods and some paddle and event swim with their dogs. On occasion, horse riders may be seen along the trails on the Conservation and/or Reservation land.

The general policy, described in more detail below, is that no user should be completely excluded from enjoying White Pond. However, certain issues such as erosion, waste and safety should be taken into account regarding what a particular user can and cannot do.

More specifically, animal policies should be consistent with people and public health-related policies to prevent adverse impact upon water quality, erosion, and safety. As impact is, in part, determined by the number of users of any particular type, as long as the number of dogs is a small fraction of the number of people visiting the pond no extra regulations are anticipated. Existing Town guidelines for the behavior and control of dogs on Town Conservation land should be followed.

Regarding horses, given their size and impact, some trails and areas in the watershed are not considered appropriate due to concerns over amounts of waste and trail erosion. Therefore, beaches and trails leading directly down to the Pond should be marked as off-limits to horses.

### **Public Education and Outreach**

Education will be required to raise awareness issues at White Pond and in its watershed and to support the people and resource management programs. Two different educational methods are envisioned.

First, clear readable signage will be important to alert trail and Pond users to which activities are allowed, which are not, when and where they are allowed, and under what conditions. Signage should be placed at appropriate points along the BFRT, Town land trailheads, and at the boat-ramp.

Secondly, a brochure should be produced describing White Pond and related recreational opportunities and restrictions and the motivations behind the management controls. This brochure could be distributed to neighborhood residents and possibly to the entire town. A specific Town web page should also be created containing the same materials.

## Enforcement

An essential element of both resource and people management is enforcement. For enforcement to be effective, it must be based upon consistent regulations and clearly marked signage along with appropriate attention from the local Police department.

The establishment of neighborhood parking restrictions along with well-marked and well-placed signage will set the stage for effective enforcement. Also needed are regular police patrols at peak times. This should include a patrol of the trails by bike and of the beaches along Town lands by foot. The patrols should occur at least once per day during the week and at least twice per day on summer weekends. A Ranger program should also be considered during the summer to assist with the regular police patrols.

These enforcement actions could be initiated in the short-term. However, prior actions to establish appropriate regulations and place descriptive signage are necessary prerequisites.

## Summary

The Vision for White Pond presented here addresses both Resource Management as well as People Management and considers 4 key areas: Water Quality, Neighborhood Issues, Recreation and Stewardship, and Town support. Short and long-term actions were identified to turn this Vision into reality.

This Vision integrates a number of proven, complementary ideas to address the various identified issues. This integration is significant since so many of the issues are intimately intertwined.

Several short-term (next 6 months) actions were identified to address high priority items, including the following:

- Stabilize area of recurring erosion and create additional controls including fencing where needed.
- Clean catch basin and infiltration chamber on boat ramp.
- Establish a seasonal parking ban on neighborhood streets as requested by residents.
- Enforce the newly established parking restrictions.

Numerous longer-term actions were also identified, and others may become necessary:

- Develop a partnership with WPA to provide a controlled amount of public access to the WPA beach, using town-issued short-term beach passes for Town residents.
- Convert at least a part of White Pond Reservation to Conservation Land and establish new regulations disallowing swimming from all Town lands abutting White Pond.
- Evaluate which trails on Town Conservation and Reservation lands should be closed, restored, and/or limited to only certain types of traffic and mark trails and maps accordingly.
- Develop and implement a cost-effective water quality monitoring and restoration plan based upon Secchi disk transparency as the first order parameter.
- Develop a succession plan for the current volunteer based long-term monitoring program.
- Maintain erosion controls.
- Clean out catch basins annually and the infiltration chambers on an as-needed basis.
- Place educational signage at key access points in the Watershed.

Consistent and effective enforcement, in both the short and long-term will also be a required element of Town support to achieve this Vision.

## Appendix A: Guiding Principles

### Guiding Principles for the Development of a Long-Term Vision for White Pond

White Pond Advisory Committee

25 February 2015

1. Our commitment to White Pond is for today and the future.
2. We will strive to restore and maintain water quality to the highest previously measured levels.
3. We will strive to preserve and protect the Watershed, its land, flora, and fauna.
4. We will seek to sustainably maintain a serene and natural environment and a safe, clean, and enjoyable experience for all users of White Pond and its Watershed.
5. We will advocate managed, public access to White Pond and its Watershed for all Concord residents.
6. We will advocate solutions to White Pond neighborhood problems.
7. We will seek to build a broad base of support for White Pond in order to ensure effective long-term advocacy.
8. We will expect the town of Concord to make ongoing formal commitments to resources, budget, and enforcement in order to affect the above principles.

## Appendix B: Table of Issues Facing White Pond

The following table lists and categorizes the various issues affecting White Pond collected by the White Pond Advisory Committee.

Issues	Solution			
	Short Term		Long Term	
	People Management Plan	Resource Management Plan	People Management Plan	Resource Management Plan
<b>Water Quality</b>				
Shoreline erosion	X	X	X	X
Impact of horses & dogs	X		X	
Catch basin maintenance		X		X
Shoreline litter	X	X	X	X
Expected impact of BFRT usage			X	X
Public toilet & trash receptacle			X	X
On-going monitoring and data collection				X
White Pond Reservation - conversion to conservation land			X	X
White Pond Well				X
<b>Keeping Neighborhoods Save and Viable</b>				
Anson & Alden no-parking request	X		X	
Willard school - is parking legal or not?	X		X	
Overflow from no-parking streets onto others			X	
Limited legal parking availability - Varick St & boat ramp			X	
Parking at Cummings property in Sudbury			X	
Speeding & excessive traffic (Dover Street, Frost Farm)	X		X	
Refuse collection from Town Conservation Land		X		X
Public Nuisances (noise and litter)			X	X
Trespassing			X	
Public toilet & trash receptacle			X	X
Expected impact of BFRT usage			X	X
<b>Recreation and Stewardship</b>				
Legitimate swimming access by Concord residents			X	
Legitimate swimming access by non-Concord residents			X	
Limited legal parking availability - Varick St & boat ramp			X	
Conservation and Reservation land regulations			X	
White Pond Reservation - conversion to conservation land				X
Horses and dogs			X	
Public toilet & trash receptacle			X	X
Swimmers (town liability?)			X	
<b>Enforcement</b>				
Illegal swimming			X	
After hours usage	X		X	
Horses and dogs			X	
Fires	X		X	
Illlicit activities	X		X	
Illegal dumping	X		X	
Willard school - enforcement needed if parking is not legal	X		X	
Alignment of police bike patrols w peak usage times	X		X	

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