

INDIAN PONDS ASSOCIATION, INC.

Mystic Lake, Middle Pond, and Hamblin Pond

Summer 2003

Newsletter

Vol. 3 No. 3

IPA ANNUAL MEETING – Sunday July 13

The IPA Annual Meeting will be held at the home of Ted Elliott, 10 Indian Pond Point at 4:00 pm on July 13, 2003. Parking is available in his driveway and elsewhere on Indian Pond Point. We look forward to bringing you up to date on the many issues affecting the IPA area, and the progress we have made in the past year.

Mr. Tom Camberari of the Cape Cod Commission will be our guest speaker. Mr. Camberari is Water Resources Program Manager of the Commission and is responsible for managing programs to maintain and protect the water resources of the aquifer that is the sole source of water that recharges the Indian Ponds. In his career as a hydrogeologist, he has published a number of papers and reports and is well known for

his work in this area. We have worked closely with Mr. Camberari on a number of issues, and he has been an invaluable source of information, much of which we have been able to use in the Newsletter to acquaint our members with the challenges in the IPA environment and its ecosystems.

At the meeting, we will be electing or re-electing five Directors for two-year terms. The candidates proposed by the Nominating Committee are Curtis Clayman (incumbent), Paul Craig, Jim McGuire, Karen Steele, and Richard Wheeler. We are fortunate to have these folks help the IPA grow.

Following the meeting, there will be a social hour with light refreshments. We look forward to seeing you on July 13.

PRESIDENT'S LETTER

In accordance with our By-laws and in preparation for our Annual Meeting, I would like to summarize our activities for the year. Additional details and updates will be provided at the Annual Meeting.

IPA's legal action against the Town in Barnstable Superior Court to prevent the lowering of the Middle Pond herring run was dropped when an acceptable management plan was developed by local authorities for operation of the run. In a meeting with Dr. Dale Saad of the Town Board of Health on June 11, 2003, she pointed out that the immediate benefit to our action in obtaining proper management of the herring run is that it will preserve much of the water now in Mystic Lake and Middle Pond and thus reduce the drop in the lake level that usually occurs in late summer and fall.

The Board voted to increase our annual dues (now tax deductible) to \$20 effective January 1, 2004. This increase is needed to cover higher costs associated with producing the quarterly Newsletter, to help support some of the other educational and scientific activities that the Board has either authorized or will be proposing at the Annual Meeting, and to cover any unanticipated expenses that may develop in the course of pursuing our mission.

As noted in our past Newsletter, the State now recognizes the IPA as a Public Charity, and the IRS has granted the IPA recognition as a 501(c)(3) tax-exempt nonprofit organization. Of importance to members and others is that the IRS has advised us that both dues and other contributions to the IPA are tax deductible for purposes of Federal income tax.

We have developed the *Residents Guide to Living on the Indian Ponds* as part of our effort to assist in informing members and the public on issues affecting the Indian Ponds. The *Residents Guide* will be available at the Annual Meeting. Interest has already been expressed in the Town that the

Residents Guide may have Cape-wide application that would be beneficial to the IPA's cause.

Perhaps the most unexpected development this year was the announcement of the closing of the Cape Cod Airport on Race Lane. IPA officers promptly met with other affected parties (including the Barnstable Land Trust and the presidents of homeowners associations in the area), and our efforts led to the Town Council voting unanimously to take measures to preserve the land as an airfield. Negotiations between the Town and the property owners are underway, and we hope to have more information at the Annual Meeting.

We have plans to expand our membership in the coming year and, as part of this, are developing a new database. The Board of Directors has also developed near-term and long-term objectives for the IPA; these will help orient new Directors and will also help inform members who may wish to work with the Directors on some of the projects and activities envisaged. We have a number of projects and ideas in mind, but they will require both funds and people. On that note, we are encouraged to see an increase in tax-exempt contributions from members, and expect this to grow in the year ahead.

John V. E. Hansen

AIRPORT UPDATE

As noted in the previous issue of the Newsletter, the Town Council voted unanimously to pursue purchase of the airport property. Late in May, we were advised that the Town's proposal had been presented to the property owners, and they were evaluating the matter. No further word has been received to date, but we expect that any developments will be reported promptly in the press. We will also provide you with whatever information becomes available at the time of our Annual Meeting.

John V. E. Hansen

CAPE COD POND AND LAKE ATLAS: CHARACTERISTICS OF INDIAN PONDS

Mystic, Middle, and Hamblin Ponds comprise one of the major groups of ponds on Cape Cod. Collectively, they occupy 368 acres or roughly 60% of the area of Lake Wequaquet, the town's largest lake. They contain 2.4 billion gallons of water or roughly enough water to meet Barnstable's drinking water needs for six months. But to understand their water quality and how their ecosystems function, one must first develop an understanding of the characteristics of each pond.

The Cape Cod Commission recently completed the *Cape Cod Pond and Lake Atlas*. **The Atlas is the most complete collection of pond and lake information ever compiled for the Cape.** The *Atlas* includes maps locating each pond on the Cape, a complete set of available bathymetric maps, a summary of water quality data collected during the 2001 Pond and Lake Stewards (PALS) Snapshot, and a development and review of water quality thresholds for Cape Cod ponds.

The **development and review of thresholds** allowed Commission staff to assess the general status of Cape ponds, including Mystic, Middle, and Hamblin Ponds. For the *Atlas*, staff reviewed 2001 laboratory results provided by the School of Marine Science and Technology at UMass, Dartmouth to assess chlorophyll, nitrogen, phosphorus, pH, and alkalinity concentrations, as well as reviewing field data collected by volunteers for dissolved oxygen, temperature, and clarity. Individual pond data provides some sense of ecosystem status, while collective review provides an overall status report on Cape Cod ponds and lakes.

Even though a definitive assessment would require water quality data collected throughout one or more summers, there are **some interesting conclusions** that can be drawn about Mystic, Middle and Hamblin Ponds from the physical data in the *Atlas*, as well as from the 2001 and 2002 PALS data. Hamblin is the deepest of the three with a volume almost twice that of Middle. Mystic is the next deepest, but because its area is the largest, it has a volume that is only slightly less than that of Hamblin. Middle Pond is the shallowest.

Temperature and dissolved oxygen are important factors to understand since fish and other creatures in lakes are dependent on particular conditions in order to survive; for example, trout need high oxygen concentrations (>7 ppm) with cold waters (<55°F), while bass prefer warm waters and can tolerate lower oxygen concentrations. Measurements collected during the PALS Snapshots in 2001 and 2002 show that the water in both Hamblin and Mystic stratifies into layers during the summer with deep, cool waters in the ponds separated from upper, warm waters. This separation coupled with excessive plant material in the bottom of these ponds creates conditions where bacteria consume most of the oxygen in the deeper waters of these lakes as they decompose the plant material. Oxygen concentrations in the cool waters of both lakes are anoxic (<1 ppm); trout generally could not survive if in these conditions persist for longer than a couple of days. Because Middle is not deep enough to have a strong strati-

fication, its waters generally mix throughout the summer. Because of this mixing, Middle's waters are warm and generally maintain good oxygen conditions, although the 2001 Snapshot did show some anoxic water near the bottom.

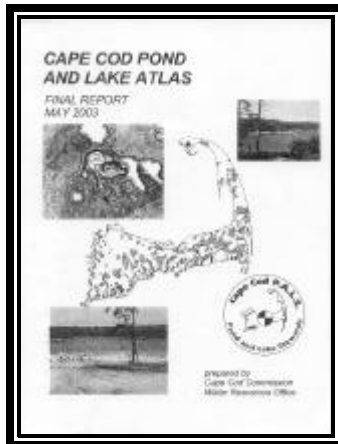
Phosphorus is the key nutrient to review in freshwater ponds because it determines the total amount of life within a pond ecosystem. Phosphorus acts as a fertilizer to plants in the system, including algae, and growth of plants provides food for the higher food levels of the pond ecosystem. But, as with all nutrients, too much of a good thing can also impair the system. Review of the 2001 and 2002 total phosphorus concentrations show that Mystic has surface concentrations exceeding the Cape Cod threshold, while Middle is at the threshold, and Hamblin is below the threshold. Mystic's concentrations are two to ten times higher than Hamblin.

The **impact of the phosphorus concentrations** on plants can be seen by reviewing chlorophyll *a* concentrations in the ponds. Chlorophyll *a* is the primary pigment in photosynthesis for most algae or floating microscopic plants. Surface concentrations in Mystic are generally twice as high as those seen in Hamblin or Middle.

During the course of putting together the *Atlas*, Commission staff also had the opportunity to review not only factors impacting pond ecosystem function, but also other factors important for pond use. **Bacterial testing of beaches** was one of these factors. Beaches at all three ponds were generally each tested thirteen times during the summers of 2001 and 2002; only one sample exceeded a limit and on retest was below the limit. So, in general, these ponds are safe for swimming.

Another factor to consider is current **fish consumption advisories**. Mercury is a neurotoxin that can concentrate in fish due to their place at the top of pond food chains. Nine of the 18 ponds tested on Cape Cod have fish consumption advisories issued by the Massachusetts Department of Public Health. Hamblin Pond currently has advisories for eating smallmouth bass; Middle and Mystic have not been tested.

Based on the information currently available, Mystic's ecosystem appears to be the most impacted, with deep water oxygen impairments; Hamblin has similar issues. Middle does not stratify and should be reviewed in a slightly different way. **Additional information must be collected and reviewed** comprehensively to get a more complete picture of the status of these ecosystems. Among the information to be considered would be additional water quality data, delineation of their watersheds, development of water budgets, characterization of land uses surrounding them, and developing nutrient budgets. Commission staff are available to assist the town in further evaluation of these ponds.



INDIAN PONDS: A CENTER OF CITIZEN INTEREST AND INVOLVEMENT

The Indian Ponds Association asked for responses to the following questions so that its members would have a better understanding of the efforts underway to preserve and protect the ponds. One factor that must be recognized and acknowledged is the level of interest and effort by the large number of local volunteers that make these programs successful.

What water sampling is occurring in Hamblin, Middle, and Mystic? Water quality monitoring efforts range from town-wide programs to efforts specific to individual ponds. Some examples are: weekly testing for bacteria levels during the swimming season at beaches; monitoring of nutrient levels three times a year in Hamblin Pond in follow up to past alum treatment; water level monitoring in Mystic Lake; optical brightener (detergent tracers) testing at pond outlets to detect possible septic system influences; dissolved oxygen, temperature, clarity, and water chemistry (primarily nutrients) monitoring as part of the Massachusetts Estuaries Project which includes an important freshwater component.

Discuss the role of volunteers and how their efforts are relevant to the whole picture. The original request was to list the volunteers so that their efforts could be acknowledged. However, it was soon evident that this would have consumed the whole article, and possibly the newsletter! In many cases, volunteers have an in-depth local knowledge of the ponds and are well aware of changes that have taken place over time.



Mystic Lake volunteers: John Hansen, David Dawson, and Nancy Dawson.

Volunteers have been involved in all facets of these efforts from simple things such as providing access from their property and allowing use of boats, to more in-depth collection of water samples, monitoring the presence of invasive plants, educating others on the importance of ponds and measures to protect them, and more. Some of these efforts involve little effort or training, while others require a substantial commitment to ensure that the work meets appropriate scientific standards. As noted above, the volunteer effort is critical to many of the monitoring efforts. While the town provides resources and funding, there are many competing needs that must be balanced; volunteers fill the gap. In addition, volunteer involvement translates into a vital,

vocal constituency to follow up on the findings and recommendations from the various monitoring efforts.

Many groups and individuals have supported the efforts to better understand these valuable resources. Many live on or adjacent to the ponds. However, others do not, but have a desire to see them protected for the valuable resource they are. Some of the many groups involved include Barnstable Water Watchers, Wheeler Road Association and Friends, Marstons Mills River Group, Barnstable Land Trust, and Three Bays Preservation, Inc. To the many individuals who participate, Thank You and continue your efforts.

Suggest ways for the IPA to get involved in future scientific studies on the ponds. As discussed above, you will recognize that many within the IPA are already involved! As we understand more about these ponds and the issues impacting them, it is important to follow through on actions to correct problems. Collaboration with your neighbors, the Town, and other agencies will allow issues to be addressed in a timely, cost-effective manner. All ponds on the Cape are extremely susceptible to activities that take place on the land (i.e., the watershed). Nutrients are the most serious threat and have many sources such as lawn/garden fertilizers, septic systems, pet wastes, and stormwater runoff. These can be managed in many ways, and the IPA can serve an important role in the education process.

Include specific ways to apprise our members. There are many sources of good information on protecting and managing our freshwater resources. The Barnstable Health and Conservation Divisions can provide guidance and direct you to other valuable resources.

Learn about and support town initiatives like the Wastewater Facilities Plan, the Coastal Mitigation (stormwater) program, and the Massachusetts Estuaries Program (a cooperative effort between the Town, MADEP, and UMass Dartmouth). The latter two both have freshwater components. You can learn about these programs by checking the Town's website: www.town.barnstable.ma.us. The Town is also participating in a program, sponsored by the Cape Cod Commission, called PALS (Pond and Lakes Stewards) that brings together volunteers and professionals to address freshwater resource issues (www.capecodcommission.org).

Upcoming events of interest include: Invasive Aquatic Plant Species training on August 28 at the Town offices (200 Main Street, Hyannis). Two sessions will be offered, afternoon and evening; class size is limited so pre-registration is required; call Barnstable Health Division (508) 862-4641 by August 15.

Household hazardous products collections at the Barnstable Transfer Station, Marstons Mills, 9:00 am to 1:00 pm on the following dates: July 26, August 23, September 27, and October 25. It's free.

*Dale L. Saad, Ph.D.
Coastal Health Resource Coordinator
Town of Barnstable, Health Division*

IS IT SAFE TO EAT THE FISH IN THE PONDS?

Although there is an abundance of fish in the Indian Ponds, and many people enjoy catching them, you may wish to think twice before eating them, at least on a regular basis. The problem is mercury contamination of their flesh.

Fish in the lakes and ponds of all the New England states and the eastern Canadian provinces contain elevated levels of methylmercury, a toxic form of mercury. In Massachusetts, where sampling for contaminants in freshwater fish has been done since 1983, roughly half of the lakes and ponds tested contain fish species with levels of mercury unsafe for routine human consumption. Over 40 states, including Massachusetts, have issued fish consumption advisories warning of the risks of eating fish flesh containing mercury.

According to the *Cape Cod Pond and Lake Atlas*, recently published by the Cape Cod Commission, the Massachusetts Department of Public Health has listed 111 ponds and lakes in the state for which there are fish consumption advisories due mainly to mercury. Nine of these are located in Barnstable County, and one is Hamblin Pond. A total of 18 lakes and ponds on the Cape have been tested for mercury contamination by either the Massachusetts Department of Environmental Protection, the Cape Cod Commission, or the National Park Service. Middle Pond and Mystic Lake have not been tested. The advisory for Hamblin Pond is for smallmouth bass and warns that children younger than 12 years, pregnant women, and nursing mothers should not eat any fish of this species from this body of water, and that the general public should limit consumption of this species to two meals per month.

The *Atlas* also points out that studies comparing pH levels of lakes and ponds with mercury concentrations in fish have shown that low pH (i.e., high acidity) conditions generally favor high levels of mercury. Since most Cape Cod lakes and ponds are characterized by low pH, this inverse relationship between pH and mercury suggests the strong likelihood of high mercury concentrations in their fish.

Even though Middle Pond and Mystic Lake have not been tested, the odds that bass in these ponds are as contaminated as those in Hamblin Pond are fairly high. Furthermore, even though the advisory for Hamblin Pond is only for smallmouth bass, folks should consider that other fish species in the pond live in this same environment and consume much of the same mercury-contaminated food. The exception in Hamblin Pond would be the trout that are stocked annually by the Massachusetts Division of Fisheries and Wildlife – these hatchery-reared fish do not contain elevated levels of mercury when released into the Pond and, hence, eating them should not pose a health risk.

Mercury is a natural element in the environment and is found at low levels nearly everywhere. However, human activities such as coal burning, industrial discharges, and garbage disposal have significantly increased such levels. Since many consumer products contain mercury, citizens are strongly en-

couraged to recycle such items (e.g., “button” batteries used in cameras, watches, and hearing aids; home thermometers and thermostats that contain mercury). Once released into the air, water, or soil, mercury can be transferred to lakes and ponds by rain, surface water runoff, or landfill leaching. Airborne mercury can travel great distances, even across continents. Once in the environment, it persists for many years and does not degrade into harmless components.

When mercury is deposited into water, microorganisms help convert it to highly toxic organic methylmercury. Small plants and animals (i.e., algae and zooplankton) absorb the mercury as they feed. As animals higher up the food chain (i.e., larger invertebrates and small fish) eat the smaller plants and animals, they also take in methylmercury. The process continues on up the food chain, with the levels of mercury increasing by the process of bioaccumulation. Consequently, larger fish have much higher mercury concentrations than smaller fish. Methylmercury concentrates in the flesh of fish and cannot be removed by cutting, cleaning, or cooking.

The Cape Cod Commission has encouraged the Massachusetts Departments of Environmental Protection and Public Health to conduct additional testing of Cape Cod lakes and ponds, including Middle Pond and Mystic Lake. It may be possible for the Indian Ponds Association to assist in some way with such testing.

In the meantime, anglers should continue to enjoy fishing the Indian Ponds, but, as many already do, it would be more prudent to practice the “catch-and-release” policy than to risk eating and ingesting the harmful methylmercury. However, the occasional fish meal within the guidelines of the fish consumption advisories is certainly acceptable.

Emory Anderson, Ph.D.
NOAA, National Marine Fisheries Service
Liaison to National Sea Grant College Program

MIDDLE POND HERRING RUN STATUS

The water is at high spring levels, the drought is over, and the herring are running. With the Town responsible for its operation, a good management plan in place, and the Superior Court suit against the Conservation Committee now closed, we are moving ahead. The Town has accepted the \$20,000 Gulf of Maine Committee grant to improve the 1000-foot wooden flume. Planning is underway in the Marstons Mills River Committee to do this repair work. This committee is chaired by Al Baker and includes representation from Town Council, Department of Natural Resources, Conservation Committee, Liberty Hall Club, other interested people, and, of course, the IPA. The Town is doing a very good job of operating the run, with great care to conserve the precious water in the lakes supplying it.

Edward Schwarm

MY CAPE COD LAWN

Spring is an exciting season of re-birth and promise. Every spring since I first visited Cape Cod in 1954 our native lawn has bloomed in early spring. This year is no exception. The beautiful 2-acre green field is one of the finest features of our property. I do nothing to the lawn except mow it and yet it greens and blooms beautifully year after year. When the house was built in 1916, I suppose the sweeping terraces were loamed and seeded. But family history of the Phelan Camp relates that no special care was ever given to the lawn. We have never fertilized, seeded, or watered the lawn even during the drought years, and yet it thrives.

This native lawn is composed of all sorts of plants, not just grass. The grass that does grow is not any kind that you could get in a package. Long ago, the native grasses became the only grasses that could fit in. Grass makes up only about 40% of the lawn. There are about 20 different plants which contribute to the lawn. This spring, the yellow buttercups are everywhere. Earlier, we had bluets, pussy toes, and trailing



arbutus in patches. Some of the slopes support soft velvety mosses. In the flat areas, there are lots of field hawkweed just ready to replace the buttercups. Here and there are small wild violets and wild strawberries. Last year, we had lots of colorful yellow dandelions. This year, we have only one or two. This native plant community is very well balanced. We think our lawn looks as good as any in the neighborhood.

Most of the lawns I walk by are perfect examples of a mono-crop like wheat or corn. The expense of putting in such a lawn complete with sprinklers is enormous. The cycle of applying fertilizer and weed killer, watering (even in the rain), and then mowing is endless and a major maintenance expense. I only mow my native lawn when it needs it, which is less often than for most of my neighbors. To start a native lawn takes great patience, lots of time, and a little luck. This is nature's way.

Bruce McHenry

LAKE AND POND WATER LEVELS

Folks that are lucky enough to live near a pond often remark about how much shoreline is exposed. This exposure varies from year to year and season to season. This variation is an expression of corresponding fluctuations in the surrounding groundwater.

Cape Cod ponds are areas where the land surface dips below the level of the underlying groundwater. So, when one looks at the water level of a pond, the surface of the pond is the top of the groundwater aquifer. Because of this, some have labeled the ponds "windows on the aquifer."

As interest in ponds has increased, so has the interest in pond water levels and the amount of exposed shoreline. The Cape Cod Commission has begun to address some of this interest by initiating and maintaining a Pond Water Level network. Volunteers on 29 ponds distributed throughout the Cape collect monthly water level readings and report these to the Commission. These readings are combined with the groundwater level information that the Commission collects from over 60 wells and is reported regularly to the US Geological Survey. Another 14 ponds are monitored by drinking water suppliers as part of their groundwater withdrawal permits. Water levels on Mystic, Middle, and Hamblin Ponds are not monitored as part of this network. Studies of groundwater and pond level fluctuations have generally found that ponds tend to vary in concert with the surrounding groundwater, although extreme dry or wet conditions can alter this relationship. The Commission completed a study of water levels on Lake Wequaquet and Long Pond in 1998. This study found that groundwater levels surrounding Lake Wequaquet and Long Pond usually matched ponds levels

quite closely, but during the high water table period in 1996-1998, the pond water level was below that of the surrounding groundwater.

If you have questions about pond water level monitoring, please contact Gabrielle Belfit at the Cape Cod Commission (508-362-3828 or e-mail: water@capecodcommission.org).

*Gabrielle Belfit
Hydrologist
Cape Cod Commission*

SMEDLEY

By Gordon Nelson



INDIAN PONDS ASSOCIATION BOARD MEMBERS: 2002-2003

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JOIN THE INDIAN PONDS ASSOCIATION IPA MEMBERSHIP IS OPEN TO . . .

- all holders of record title within the Village of Marstons Mills abutting any of the three ponds (Hamblin, Middle, and Mystic)
- including property not to exceed one lot in depth across the bounding highways from the lake area indicated on the Town of Barnstable Zoning Map dated March 8, 1966.
- Bounding highways are Race Lane from Old Mill east to Route 149, south to Lovells Lane, west to River Road, northwest to Bog Road, north to Old Mill Road, and ending again at Race Lane.

This Newsletter is a forum for the exchange of ideas on matters germane to the IPA mission and, as such, the views expressed by authors of articles do not necessarily represent official IPA policy.

Visit our website at: <http://www.indianponds.org>

BARNSTABLE LAND TRUST



The Indian Ponds are surrounded by some of Barnstable's last undeveloped land. A recent Cape-wide study spearheaded by the Compact of Cape Cod Conservation Trusts identified the Indian Ponds as Priority Ponds and pointed out that roughly one third of the Town's undeveloped freshwater pond shore is located in the Indian Ponds area. To preserve the scenic character of this area,

provide wildlife habitat, protect water quality, and insure the continued availability of swimming, boating, fishing, and other recreational activities, the study recommended preserving the undeveloped upland surrounding the Indian Ponds.

The nitrogen, phosphorus, and other nutrients that accompany new development will increase algae levels in the ponds, leading to oxygen depletion and the die-off of fish and other pond life. Our drinking water may also be affected. All ponds are windows in the aquifer – surface expressions of the groundwater table. The Indian Ponds are within one of Barnstable's designated groundwater protection areas, as well as being adjacent to two areas set aside for wellhead protection.

Barnstable Land Trust has organized two workshops to focus on the environmental and financial benefits to landowners who take action to save the ponds. All are welcome.

- Friday, July 11, 2003, 1:00-3:00 pm, Osterville Free Library, Wianno Avenue
- Monday, August 11, 2003, 10:00 am -12 noon, Sturgis Library, Route 6A, Barnstable Village.

Pond shore landowners who restrict development can reduce their annual tax bill. Land preserved permanently also generates charitable deductions for up to six years, reducing income taxes. What could be better than preserving our ponds and saving taxes too!

If you would like to attend a workshop, please call the Barnstable Land Trust (508-771-2585) to let them know you are interested. For more information about the BLT, visit their website at www.bltnet.org.

Red Banskfield

IPA: 45 YEARS OF ECOLOGICAL CONCERN

The IPA was formed in 1958 by property owners in Marstons Mills surrounding the so-called Indian Ponds: Mystic Lake, Middle Pond, and Hamblin Pond. The founders recognized at an early stage the threat of overpopulation and exploitation of the fragile ecology in this area.

In 1961, the Association convinced the Town of Barnstable that larger lot sizes were essential to prevent contamination of the lakes, and the first one-acre zoning on Cape Cod was established. In 1963, the Association was active in researching and supporting the existing roadway width in the area.

In 1967, the Association proposed and was successful in establishing a 1200-acre conservation area by the Town of Barnstable, and in the early 1970's, the Association researched and successfully opposed the commercialization of the natural resources.

In 1975, the Association proposed and was successful in establishing a Town of Barnstable By-law pertaining to the 10 HP maximum outboard motor size on the freshwater lakes in order to minimize ecological damage. In 1981, the Association succeeded in convincing developers to refrain from draining lake water to supply man-made ponds. In so doing, the Association acquired a restriction that land at the end of Middle Pond be undeveloped and left in a natural state, with permanent rights to oversee this.

In 1983, a letter to Selectmen influenced a revision in the planning recommendations by the consultants Lozanno & White which gave greater emphasis to water quality as a top priority issue. Also, petitions sent to Selectmen (125 signatures) protesting the Rte 149 and Osterville - West Barnstable Road development had considerable impact in influencing the Town's subsequent acquisition of the area for conservation.

During the years, the Association has become a vigilant and concerned participant in matters of local zoning and conservation, actively supporting measures which would protect the environment and maintain the water quality of the three lakes involved.

Carolyn Garbutt