

INDIAN PONDS ASSOCIATION, INC.

Mystic Lake, Middle Pond, and Hamblin Pond

Spring 2003

Newsletter

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PRESERVING BARNSTABLE'S OWN "FIELD OF DREAMS"...

On March 9, a brief story in the *Boston Globe* announced that the Cape Cod Flying Service, longtime leaseholder and primary user of the privately owned grass airfield called "Cape Cod Airport" on Route 149 in Marstons Mills, had been unable to secure a new lease from the property owners and would cease operations as of April 30. Since the story broke, numerous follow-up articles, op-ed pieces, and letters to the editor have appeared in our local newspapers. In print and at meetings around Town, neighbors, visitors, pilots, and friends spanning several generations have expressed their tremendous love for this airfield, making clear they see in it a community treasure, a gem whose environmental, scenic, historic, and economic value ought to be recognized and preserved. Leadership of the Indian Ponds Association, the Barnstable Land Trust, and several Ponds area neighborhood associations are working closely together in response to the challenge presented by this turn of events.

The airfield is located in a part of Marstons Mills known as "The Plains" that was formed by the deposits of sand and gravel from glacial melt-water many thousands of years ago. This now rare segment of open, relatively flat, grassy sand plain is an important wildlife habitat, is situated at the critically important upper extremity of the local watershed, has a long history of successful agriculture, and for 75 years has been the near-perfect home of a small, traditional grass airfield that many find to be as good for the spirit as it is kind to the land.

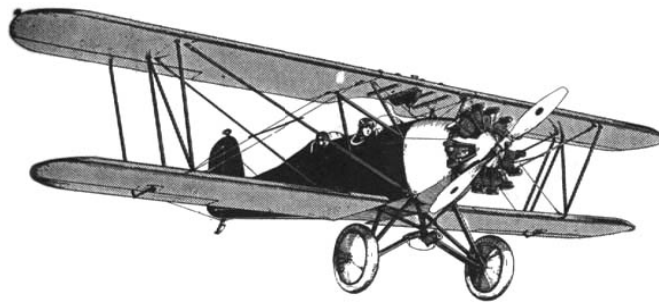
"Cape Cod Airport" was opened by Zenas Crocker and other associates in an old pasture and hayfield during the summer of 1929. One associate, Crocker Snow, who later became a Director of the Massachusetts Aeronautics Commission, located his "Skyways" flight school and charter business there that year. He mowed the runways, built hangars, and so began the very first commercial airport on Cape Cod during what were the wild "barnstorming" days of aviation. The field hosted a Flying Circus on July 4 in its first year of operation.

During the Depression Years of the early 1930s, the Massachusetts Air National Guard used the field for periodic summer exercises, but by mid-decade, Snow's operation failed. Mrs. Hilma Danforth, whose husband William H. Danforth, Sr. had been one of the original incorporators of the airport, bought the property, which then included horse stables, a polo field, and an auto racetrack. The field was closed during World War II due to short supplies, but reopened in 1946 under a new lease agreement with John C. Van Arsdale, a friend of the Danforths, who founded the present-day Cape

Cod Flying Service. He offered flight instruction under the G.I. Bill of Rights and operated a seaplane base out of Mystic Lake. In 1952, Van Arsdale started Provincetown-Boston Airline (PBA), the first small airline service on Cape Cod, and moved his new operation to Provincetown.

From 1952 until the present time, members of the Kornhiser family have operated Cape Cod Flying Service at Cape Cod Airport. Harry P. Kornhiser had been Mr. Danforth's pilot, was eventually succeeded by his son Rick Kornhiser, and now Rick's wife Laurel owns the company following Rick's untimely death in 2000. Flight instruction and glider rides are

offered, a small number of private aircraft are maintained, and space is used by a model airplane club as well as by local police departments for K9 training. The Kornhiser's classic World War II era Stearman bi-plane still enjoys a place of honor in the hanger and can occasionally be seen in the skies over Marstons Mills, itself a symbol of the unchanging traditions of this historic and



very beautiful airfield.

In many ways, this is Barnstable's very own "Field of Dreams," representing a gentle, conservative, and protective use of sensitive land...especially when compared with other possible uses such as high-density housing, commercial development, a tourist "campground" (which nowadays would probably be filled with RVs, not tents), sports "megaplex," or even another golf course.

The Barnstable Land Bank Committee, observing that the five parcels of real estate involved are of key importance to the Town as critical open space, has recommended them for purchase under the Cape Cod Land Bank Act. On March 20, the Town Council heard support for preservation of the airfield from members of the Barnstable Airport Commission. The Commissioners like it personally, and find it operationally beneficial to Barnstable Municipal Airport to have such a nice facility nearby that caters to small aircraft. The Council also heard from a series of speakers including IPA President John Hansen, Cape Cod Flying Service Manager Dan Lyons, Wheeler Road President Bob Frazee, and 16-year-old pilot Mike Riccardi who had recently soloed at the Marstons Mills field and hoped he would not be the last to do so. Several Councilors contributed favorable comments of their own, before unanimously passing a motion by Council President Gary Blazis instructing the Town Manager to enter into negotiations with the property owners with the specific objective of doing everything possible to keep the airfield.

Bob Frazee

IPA AWARDED 501(c)(3) STATUS

The IPA has been awarded 501(c)(3) status by the Internal Revenue Service. This determination was conveyed in a March 21 letter of determination. The most important feature of this new designation is that donors to the IPA may now claim these contributions as charitable deductions on their Federal income tax returns.

In the previous issue of this newsletter, we reported that an application had been submitted on November 1, 2002 to the IRS for recognition and exemption of the IPA under Section 501(c)(3) of the Internal Revenue Code. A January 22 response from the IRS requested additional information relative to the application and indicated that the IPA's Articles of Organization had to be amended to include several provisions in order to meet the organizational test for exemption under Section 501(c)(3). On February 8, the IPA Board of Directors voted unanimously to add the required provisions to Article II. As required, the amended article was re-filed on February 20 with the Corporation Division of the Office of the Secretary of the Commonwealth of Massachusetts, and was approved on February 24. A copy of the amended and approved article, together with the other requested information, was resubmitted to the IRS on March 11. As mentioned above, final IRS approval of our application was granted on March 21. Members desiring to obtain a copy of the revised article should contact the IPA Clerk (Edward Schwarm).

Emory Anderson

SUPERIOR COURT SUIT TO BE DROPPED

As we have reported before, twelve members of the IPA brought suit in August 2001 opposing the lowering of the herring ladder, the lack of a meaningful management plan, and ill-defined management responsibility. Bringing this suit got the attention of the Massachusetts Division of Marine Fisheries (DMF) at the highest level. IPA members worked with them and the Town Department of Natural Resources to develop a sound, workable management plan and operating schedule which includes firm limitations on water flow rates. The DMF has requested the Town to provide direct management of the herring run, a responsibility which the Town has willingly accepted. We are very comfortable with this arrangement. It is working well, protecting the water quality and levels of the lakes and the health of the herring population. The Marstons Mills River Committee, on which the IPA is represented, will continue to oversee the operation.

Since the State Department of Environmental Protection (DEP) denied our appeal to forbid lowering the ladder, the probability of our winning the Superior Court suit was very low. Additionally, the cost of appealing the DEP decision in court was prohibitive (\$50,000-\$90,000). With the herring run situation now well under control, we are in the process of dropping the Superior Court suit.

Edward Schwarm

POND ECOSYSTEM FUNCTIONS

To understand the conditions in our ponds, IPA volunteers, under the direction of Dr. Dale Saad of the Barnstable Health Department, have been taking measurements and collecting data for the past few years. Alex Frazee began doing this on Middle Pond in the summer of 1996, and David Dawson and John Hansen started similar activities on Mystic Lake in 2001.

One of the best indicators of pond ecosystem function is regular measuring of pond water clarity. This measurement is taken by lowering a **Secchi Disk** (see illustration on right) into the water and noting when it cannot be seen anymore. This is an indication of how deep into the pond sunlight can penetrate and is usually considerably shallower in ponds with extensive algal populations and nutrient inputs.

Other measures which are easily collected and very informative are temperature and dissolved oxygen. Water temperature within a lake changes over the course of a year and sets up layers of water that have different water quality characteristics. Dissolved oxygen is affected by temperature, but can also be impacted by extensive plant populations that can increase concentrations during sunny days or by thick organic sediments that consume oxygen as they are digested. Regular collection of temperature and dissolved oxygen during the summer can reveal important information about the overall health of a lake ecosystem.

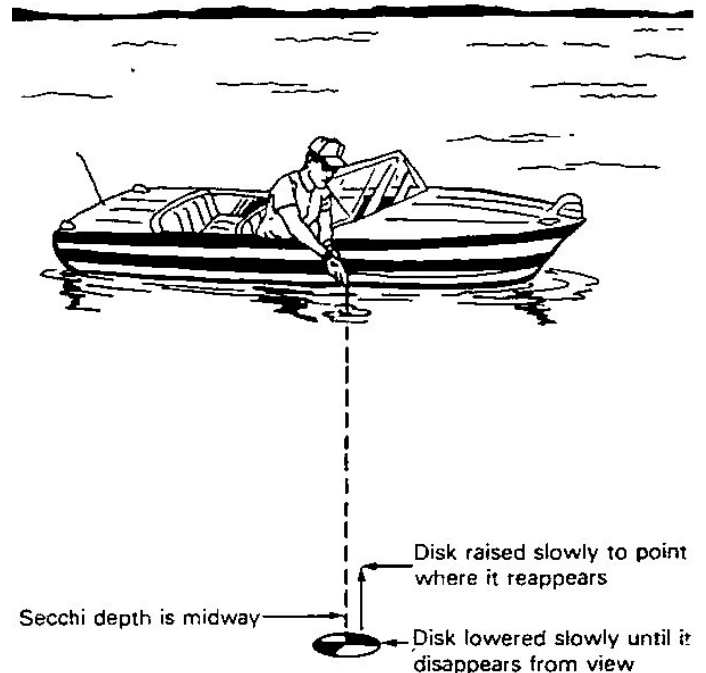


Figure and most text on left taken from May 2000 brochure "Cape Cod - A Community Connected By Water"

POLLUTANTS AND POLLUTION

The recent announcement of the airport closing served a useful purpose: it brought into focus the potential for pollution of the ponds from development in the airport property. Members of the Indian Ponds Association stressed this fact at a Barnstable Town Council meeting on March 20, and that contributed to the Council voting unanimously to take steps to permit the Town eventually to purchase the land, and continue its operation as an airport.

The airport land is the nearest part of the watershed feeding the ponds, the Marstons Mills River, and downstream water bodies. Any significant change in the land usage there could readily permit chemicals and pollutants in the ground to reach the ponds. **As a result, any new activity in the area, such as a golf course or residential development, would significantly increase the amount of nitrogen and phosphorous flowing into the three Indian Ponds, and ultimately down to the Three Bays.**

Pollution in our ponds stems from man-made waste and the pollutants we get from the world around us. Typically, a golf course utilizes copious quantities of fertilizers, which are abundant sources of both nitrogen and phosphorous. Many residences also use large amounts of fertilizers, and, in addition, they contribute pollutants from household chemicals and soaps. Treating household waste will deal with a lot of the problem, but many people are surprised to find that even a modern, well-functioning septic system does not significantly reduce the amount of nitrogen and phosphorous that is released.

Once in the ground, phosphorous will normally be absorbed by the soil and vegetation in about 300 feet of travel, which means that property owners near or on a lake should be careful in using phosphorous compounds. However, phosphorous from fertilizer or soaps can also reach the lake by "run-off" (i.e., the water running along the surface of a paved road or driveway to the lake). Our concern for the development of a golf course on the airport property reflects the

large increase in fertilizer that would result, and its impact on the ponds.

Phosphorous is generally the nutrient of concern to the lakes. While it is the chemical that helps make plant life grow, excessive amounts of it in a pond will over-stimulate plant and algae growth. Such aquatic growth demands oxygen, and in time, the plant growth stimulated by the phosphorous will start to consume the available dissolved oxygen in the pond. As a result, in the summer months, the shallow waters of the pond will deteriorate from lack of oxygen. This process has a fancy name: eutrophication. In addition to creating heavy algae and plant growth (making the water unsuitable for boating and swimming), the decaying algae and plant life will give off an unwelcome odor.

The downward leaching of nitrogen from septic systems and lawn fertilizers contaminates the ponds and the aquifer and significantly affects the Cape's downstream estuaries (such as the Three Bays). In those areas – which are already rich in nitrogen – the additional nitrogen stimulates aquatic growth. Surprisingly too, 75% or more of the water reaching the bays originates upstream.

Whatever we can do to reduce nitrogen going into the ponds and the Marstons Mills River will contribute to the health of our groundwater and the bays in our area, and they are all directly related to the health of the Cape, and your property. If the ponds and estuaries become overgrown with algae and aquatic growth, the Cape will not be an attractive place to visit or live.

We'll continue to provide you with information that may be of help in dealing with pollution and pollutants. The IPA is working with the Health Department here in Barnstable to routinely monitor the clarity and oxygen level of our three ponds. If we see signs of significant changes in the health of the ponds, you'll be the first to know.

John V. E. Hansen

IPA PRESIDENT IN THE NEWS

IPA members should be pleased to know that our president, John Hansen, has diligently represented us at various meetings regarding the fate of the Cape Cod Airport. Some of the recent articles about the airport in local newspapers have quoted John.

"Preserving the airport is a top priority, but it is too soon to know if the association would consider purchasing the property," said Indian Ponds Association Board of Directors President John Hansen Thursday. "Cape Cod Airport is literally the next step in the watershed of the ponds," Hansen said. "The airport parcel is just one roaringly large invitation to putting something there that would worsen the [potential for pollution] problem." (*Cape Cod Times*, March 15)

"I'm encouraged by the town acting on this," said association president John Hansen. "At this point we'll breathe a little bit easier and see where the world takes us." (*Cape Cod Times*, March 19)

"Development of that land for residential development or golf would contribute significantly to polluting Indian Ponds." (*The Barnstable Patriot*, March 28)

John became a member of the IPA Board of Directors in July 2001, was elected president in July 2002, and has since played a very active role on behalf of the Association. John has attended many workshops pertaining to the health and welfare of the ponds and has been a volunteer in monitoring water quality (see article on p. 2).

Gerri Anderson

WATER LEVEL HIGH – HERRING RUN OPERABLE

According to the management plan developed by the Massachusetts Division of Marine Fisheries in collaboration with the IPA and the Town Department of Natural Resources, the herring run will be opened from April 15 until June 14 to facilitate the upstream passage of adult river herring (alewives) into Middle Pond and Mystic Lake to spawn. The plan also allows the run to be opened earlier than April 15 (but not before April 1) if substantial numbers of herring are observed in the Marstons Mills River below the entrance to the fishway. With the water level in the lakes restored to a high level because of the heavy amounts of snowfall and rain this past winter, there will be no difficulty in operating the run this year. It is always fascinating to watch the herring traverse the fishway and ladder, but observers are reminded not to disturb or try to catch any fish.

Emory Anderson



PROGRESS WITH HERRING RUN

The Marstons Mills River Committee now has a Herring Run Planning Subcommittee to plan and oversee work to be done in rehabilitating the herring run between Middle Pond and the Marstons Mills River. Grant money is now available for part of this work; \$15,000 from the Department of Agriculture to replace the concrete ladder structure and \$20,000 from the Gulf of Maine Council to rehabilitate the 915-foot wood sluiceway. The latter grant was obtained through efforts of members of the IPA. A planning session was held recently by Doug Kalweit of the Town Department of Natural Resources who will direct the project. The first priority is to replace the leaking gate supplying the Hamblin cranberry bog this summer. Minor temporary repairs to the sluiceway are needed and will be done now to operate the run. This winter the concrete ladder structure will be replaced and work begun on rebuilding the wood sluiceway. Since about \$50,000 will be needed for materials and machinery rental to complete the sluiceway, more grant money will be sought. All labor and job supervision will be provided by volunteers. This is a major community project which will be completed in about two years involving the help of the Town's Departments of Natural Resources and Public Works, Liberty Hall Men's Club, Trout Unlimited, IPA, and others.

Edward Schwarm

CALCULATING WATER FLOW

The water-flow limitation in the new management plan for the herring run is a maximum of 378,000 gallons per day versus the approximately 2,000,000 gallons per day that were lost from the lakes when the herring run was left wide open several years ago. Several people have asked, "How will you know how much water is flowing out?" For large power or flood-control dams, remote-reading flow and depth meters and a small computer are installed – neat, convenient, and very expensive.

A low-cost alternative for the herring run is to calculate the flow through the V-notch in the flow control board. By measuring the level of the water above the bottom of the V-notch, the flow rate is easily calculated using one of several simple experimentally determined algebraic formulae. Appropriate formulae and coefficients for various shaped notches, or weirs as they are technically called, are available in mechanical engineering handbooks. An even easier way is to time how long it takes to fill a five-gallon bucket and make the calculation (i.e., 1.14 seconds is equivalent to 378,000 gallons per day). After all, water and dams have been around for a long time, and people have solved these problems long ago.

Edward Schwarm

PALS MEETING

Tom Cambereri of the Cape Cod Commission has announced a meeting of the Ponds and Lakes Stewardship (PALS) program at the Dennis Senior Center on Thursday, May 15 beginning at 12:30 PM.

The meeting will cover the new Cape Cod Pond and Lake Atlas, groundwater/surface water interactions and monitoring, the Compact Atlas of priority land-use parcels around ponds for acquisition, and strategy for this summer pond sampling.

VOLUNTEER

Why not volunteer for some of the IPA's activities? Attend meetings, such as PALS advertized on the left, and share your new knowledge with the IPA. Become a Newsletter writer, Newsletter photographer, water sampler, weed watcher, or wildlife observer. Computer and accounting skills may be needed in the near future.

To volunteer, send a note to the IPA (P.O. Box 383, Marstons Mills, MA 02648) or send an e-mail to: info@indianponds.org.

HAMBLIN POND RESTORATION SUCCESS STORY

About 5,000 years ago, at the end of the Wisconsin Ice Age, the great continental glacier retreated north across Cape Cod Bay leaving massive blocks of glacial ice imbedded in the gravel, sand, and clay deposits left behind by the glacier. About 365 kettle hole ponds were formed on Cape Cod as the ice slowly melted. Included among these are the Indian Ponds: Mystic Lake, Middle Pond, and Hamblin Pond.

Hamblin Pond took its name from generations of Hamblins living in this area. Previously known at different times as Gregsins Pond or Clear Lake, it is a great pond of 118 acres and, under normal conditions, with a volume of 1.1 billion gallons. There is no outlet to the pond today, but it is thought to have once had one from the Burgess property through bogs now buried under the Barnstable land fill.

Hamblin Pond remained undisturbed until about 1920 when the Clear Lake Duck Farm was established by the Hadley family on the south end of the lake. **At any given time, about 10,000 white and Muscovy ducks were being raised in long wire cages or pens, which extended well out into the pond. The farm raised ducks for meat and feathers. The intense interaction between 10,000 ducks and the pond allowed tremendous amounts of fecal waste to be deposited directly into Hamblin Pond.** There is still a thick layer of fecal waste covering the bottom of the pond even though the Clear Lake Duck Farm closed in 1955 and was sold to a developer, Arthur Madalina. In 1955, when my first wife Martha Phelan showed me her family "camp," we drove on a dirt road across the duck farm property, opening and closing several gates before reaching the camp between Middle Pond and Hamblin Pond.

In the late 1950s, there was an attempt to establish a state park on the three ponds, and the State also proposed building a large boat-launching ramp for recreational boating. These and other related activities prompted the establishment, by local residents in 1958, of the Indian Ponds Association. In 1961, the Massachusetts Division of Fisheries and Game began stocking 50,000 fingerling brown, rainbow, and brook trout in Hamblin Pond each year. Later, they stocked adult trout. The fly-fishing was considered some of the best in the State.



Several decades of duck farming at the south end of the pond appear to have greatly accelerated the natural process of eutrophication, with algal blooms, decay, and nutrient recycling within Hamblin Pond. The pond would suddenly turn bright green each spring because of the algal bloom. The oxygen was badly depleted, the fish would die off, and the cycle would start again. A study was contracted by the Town to develop a plan to correct the problem. This study, by Baystate Environmental Consultants, Inc., recommended that Hamblin Pond be treated by laying down a layer of alum to cover the fecal waste lying on the bottom. This recommended treatment was carried out on Memorial Day weekend in 1995. Unfortunately, this treatment killed most of the fish in the pond. Subsequent restocking has replenished the fish populations.

Not many residents around Hamblin Pond are aware of the history of this beautiful pond. As we all try to help protect our ponds, it is nice to know a bit of the history. The author hopes this article will help you to appreciate the importance of our ponds.

Bruce McHenry

