

## A History of Needham Sportsman's Club Water Problems

By Ray Capobianco February 10, 2012

Some time during the early 1960s clues of potential water quality problems were evident but not obvious to the Pond Committee. As previously described in Part III of the Club history, the pond was created in 1800's by damming Rose Mary Brook, becoming basically a bog pond; relatively shallow with a mud bottom, few if any springs and relatively little water flow during the summer months. However it was a major source of ice for Town of Needham residents, a necessary commodity harvested during the winter.

The following is a history of events through the years up to 2012. Unfortunately there is little or no Club archival data from 1976 till 1988 but thanks to Chuck Capone, who maintained a personal file of the catastrophic events from 1988 to 2001 the story, can be told. The remaining data came from personal interviews, the Needham Public Library and Public Works Department.

### The First Sign of Concern

As mentioned in the earlier documented history, the Town of Needham had obtained an easement (1952) for a force sewer line from its sub-station below the Club dam on Great Plain Ave., under the pond, up through Rose Mary Glen to Mark Tree Road. This line traversed the pond about 20-30 feet from the eastern shore. Because of the sewer line only 2/3 of the original pond could be dredged in 1954. However subsequent dredging of the upper swampy area in 1955 provided additional fishable water. The water depth at one location along the dam head was reported to be 12 feet after dredging; however the remainder of the pond was only 6 feet at best.

During the period 1955 to 1965 the Club was stocking on average 800-1000 trout per year mostly browns and rainbows. The greatest number stocked in the spring, with a second stocking in the fall, with mostly fish 10-12", experimenting occasionally with larger quantities of brook trout. On several occasions large fish 14- 26" were stocked; obviously the price per pound reduced the number stocked significantly.

Even though fish were holding-over through the winter, few got through the summer; Club policy still allowed keeping 4 fish/day up till October 1<sup>st</sup> at which time catch and release went into effect. By the mid 1960s and 8-10 years of low water encouraging algae growth and high water caused by hurricane season, the Pond Committee was looking for ways to maintain a stable, quality water supply.

### The Pond's Water Origin

The origin of Rose Mary Brook is the 200 acre watershed area above Mark Tree Road which encompasses the forested area of High Rock Street. Both had little development till the early 1940s. Town records show "in 1952, 3700 acres (49% of the town) with a forest/vegetation cover; by 1977 the same coverage was estimated to have decreased to

less than 1500 acres or 20%”. For many years prior to this, the major compliment of water flow to the pond was winter snow melt and natural springs draining forested areas at higher elevations. Over the years this was being replaced by storm drain run-off coming from the various side streets up hill of the pond. (This was a common and lawful practice for suburban communities in eliminating street flooding). The unfortunate consequence of this was flash flooding, erosion, and severe siltation of the Club pond. The only control members had over pond water levels in the 1950’s was the same as .today, adding or removing boards at the dam. At extreme high water, with all boards removed the dam would be breached resulting in the lost fish. During Hurricane Dianne in 1955 apparently the dam outflow pipe clogged, the huge volume of water caused flooding over the roadway. There was a rumor trout were found on Great Plain Ave. near the Club driveway. The dam underwent repairs and a larger outflow pipe was installed that November.

### Chronology Over Years of Water Problems

By 1960 some of the more experienced members of the Pond Committee questioned the hold-over ability of the pond, the numbers didn’t add up. After stocking 600+ fish in the spring the pond log indicated 350-400 fish caught and kept, leaving 200 to be accounted for. The log showed very few members fishing through the summer months and only 1-2 fish per week being taken. Water temperatures were running in the low 60s by June and well into the 70s by mid July.

In 1961 Gilbert’s Hatchery was contacted by Matty Mathis, Pond Chairman, asking for their ideas on the hold over problem. Mr. Gilbert having knowledgeable of the pond recommended a pump for aeration. This was procured (some say a gift from the Town) and installed in May however there is no further mention of its use.

The brook entry point was relocated during the dredging of 1955 or 56 in an attempt to reduce erosion (silt) but more importantly in 1961, a weir was built to prevent fish from escaping up the brook and at the same time helping oxygenate the water. (There is no recorded of the weir’s demise). A recent discussion with an employee of the original dredging company (J.Derenzo Co.) revealed that although most of the dredged material was hauled away to a farm on Sherburne, the remainder was piled up to the right of the present brook entry. He further indicated there was need to build up the bank at the far end of the pond because of erosion.

A note in the June 1959 news letter makes reference to a well being drilled to provide cool water to the pond during summer months. There is no further reference till 1990 when it is once again activated. However it should be noted, the well was only capable of supplying 5 gal. /min., a fraction of the 50 gal. experts say was needed. The well head was checked as recently as 2005 and found operable.

In Oct. 1960 the pond was drained down for dam repairs at the same time the water remaining was treated with rotenone to eliminate trash fish that were competing for the same food sources as trout.

In the fall of 1962 a friend of the club, a biologist by the name of Dr. C.F. Whitney agreed to seine the pond in an attempt to once again eliminate trash fish. Reports indicate he was able to remove ~5000 fish! (a questionable number.)

The June 1965 newsletter makes note "Sam Loomis was busy replacing the wire (screen?) in the outflow", an attempt to prevent trout escapement.

The Club newsletter in November 1965 reports the pond had a weed problem. An unknown chemical treatment (possibly copper sulfate), the same used by the Town of Needham to treat Rose Mary Lake for a similar problem, was applied. In the same newsletter an added note, "three week inspection has been made and found satisfactory" indication the weed problem was under control.

In Aug. 1966 the pond was once again (drawn down?) treated with rotenone.

During the late 1960s, the water in Rose Mary Lake was considered marginal for public swimming. By 1972 the town prohibited swinging in the lake and built an Olympic size pool, adjacent to the lake. The pool water was drawn from the lake and processed through a filtration and chlorinating facility.

#### The Major Event - Rupture of the Town Sewer Line

As mentioned earlier, there is little or no information in the Club newsletters regarding the town sewer line break discovered in 1988. However thanks to Chuck Capone, a general contractor in Town, member of the Club and subsequent president during the turbulent years of clean-up, we have his personal files. Several memos between Chuck and town officials paint a bleak picture of the events including the follow up and remedial actions. Before getting into the details of the break we must go back to the summer of 1987 and a report dated December 28, 1987.

Club records show there were concerns once again with water quality (algae bloom, weeds, etc.) Lycott Environmental Research, Inc. was contracted to perform a water analysis. This was conducted on August 20, 1987 unfortunately there is no report however there is a memo dated December 28, 1987 from Lycott, responding to a request for help interpreting the test results.

These are excerpts from Lycott's memo....."dissolved oxygen drops off greatly between the surface and the six foot level.....you have very limited trout water available.....very high count of coliform bacteria, 22,900 which is a little disturbing....State standard for coliform in swimming water is 1,000 organisms.....levels indicate that a source of bacteria.....may be present."

What is most disturbing, the pond failed to freeze in one location during the winter, along with this alarming report, there is no record of the town being notified of a potential problem. In retrospect, it is obvious no one associated the high bacteria reading, the lack of freeze over in one location with a possible sewer line problem.

On April 4, 1988 “a major boil” (some say it was 12’ high) with water discoloration was noticed in an area on the eastern side of the pond over the sewer force line indicating an obvious rupture. The Needham Public Works Dept. was immediately notified. The Town’s initial reaction was to formulate a plan to draw down the pond, then locate and access the break. Because of the break location, repairs could not commence until April 11 at which time the pond was drawn down and then further delayed so the residual water could be pumped out. There is no Club data available but it appears the necessary repairs may have taken 3-4 months at which time the pond was refilled to its original level.

The Club elected to hire a private consultant, Aquatic Control Technology Inc (ACT), to evaluate/assess the potential damage to the pond and recommend remedial action. They also wanted a base line to ensure repairs were effective.

The Sewer Division subsequently took full responsibility for the sewer failure and engaged the services of the same consultant and accepted their recommendations for “restoring the pond to its previous condition”. To their credit, they also notified all abutters that a potential health hazard was present in their backyard. (There is no data available as to neighbor’s concerns or response).

#### Recommended Remedial Action

The ACT’s initial plan of action was, “identify the nature and magnitude of the problems caused by the sewer leak” after which “appropriate mitigative measures could be recommended and implemented”.

A preliminary report was submitted on May 2, 1988 with the final report on July 1 which ACT’s states.....“the following is our assessment report with recommendations to mitigate or reverse any damage caused by the leaking sewer pipe.”

“Fecal coliform bacteria, and fecal streptococcus bacteria samples taken.....exceeded the limits established by the state for bacteria in Class B water.....Phosphorus concentration were also high, well above levels known to support algal blooms,”

“Two composite (sediment) samples, corresponding to the upper 2” and the top 12” of sediment, were taken from three locations around the pond....Except for nickel and vanadium, the top (surface) sediments contained lower concentrations of heavy metals than the deep sediments. Although the chemical history of the pond is uncertain, it is possible that the higher metal concentrations found in the deep sediments are due to many years of urban runoff and sediment accumulation....generally lower metal concentrations found in the top sediments....did not occur as a result of the leak....lead from the deep sediment is the only metal found to be in the Mass, class 3 dredge and fill range....Total volatile solids....oil and grease, a common component in sewerage is higher in the top sediment....this is consistent with a sewer discharge. Based on Massachusetts guidelines, the sediments would be classified as category 3, type C material....dredge and fill range.”

“...with sediment phosphorus levels as high as those observed, algal blooms, excessive plant growth and unpleasant odors emanating from the pond could become problematic in the near future unless remedial action is taken.”

“While several alternatives are available to address the problem which occurred at the pond, the most simplistic would be to withhold all treatments and corrective measures....”

“In taken no action it is unlikely that the pond would be able return to it’s original water quality and....less suited for the maintenance of a trout fishery.”

“The second option is to apply aluminum sulfate (alum) to the sediments. An advantage to using alum is it’s long-term effectiveness in comparison to....copper sulfate...which is also very toxic to trout....The longevity of an alum treatment varies....re-treatment would be required after a period of time if no other restorative action, such as dredging has been taken.”

“The third option is sediment excavation (dredging)...The major advantage ...is the removal of excess phosphorus and sediment from the system and trucking it off-site.... At the same time...the pipe causing the problem could be relocated.”

“However, because the town may require time to consider all available options prior to initiating such a project, we feel that an alum treatment could be made during the interim allowing for restocking of the pond with trout until a permanent long-term solution can be completed.”

In a follow-up survey on August 29, 1988 by ACT, at the request of the Town, additional test sites on the brook were incorporated in the report.

“All bacteria levels were considerably lower at the outlet (dam) and adjacent to the leak, suggesting that the leaking sewage pipe was the major source of bacteria in the pond.”  
“The values reported upstream of the pound reveal elevated bacteria contamination at all locations..... symptomatic of sewerage contamination and should be investigated.....”

### The Town’s Mind Set and Approach

A candid review of the available memos indicate the Needham Sewer Division, Public Works Management, Mass. Department of Environmental Quality, and Needham Conservation Commission all had a clear understanding of the sewer problem and the potential cost for the recommended corrective action. What approach should be taken in requesting the need funds? (A too bigger pill to swallow at one time.)

Excerpts from the Superintendent of Sewer Division (Richard Merson) memo to the Director of Public Works (Robert MacEwen), dated August 31, 1988 says it all.....

“I would suggest that a short, intermediate and long term approach should be undertaken. The immediate action would be the Alum treatment in September and a minimal restocking of the pond for the fall 1988 fishing season. The intermediate action would be a dredging of the pond sediments during the summer of 1989. This would restore the Club’s’ activities until the ultimate long term solution to the pipe location is resolved.”

“As given in the (ACT) letter of July 1, 1988, the Alum treatment alone would cost \$5,000 - \$7,500. The weed harvesting and copper sulfate treatment could be additional.....fish restocking will probably cost between \$1000 and \$1200. Therefore, the entire initial restoration, excluding dredging will probably fall within the \$10,000-\$15,000 figure.”

“The concept of relocating the force main in some fashion was strongly supported.....the possibility of this happening within one year is highly unlikely.....this study and any eventual action taken would easily require several years..... “

“I would propose that a dredging estimate be secured and a capital request prepared. In addition, an amount to conduct an engineering study be requested to determine a long term solution. The possibility of this situation recurring in the future is great. A similar restoration would be required each time. Under these conditions the credibility and liability of the Town would suffer and the Club would most likely loss membership and go out of business.”

Another significant comment in the same memo and not addressed in any future communications.....“results from the post repair samples still indicate a disturbing number of high readings along the gorge between the pond inlet and Marked Tree at Oak Street.....These will be explored in greater detail in the next few weeks”. (There is no reference to this latter comment in the Town’s’ memo to the Mass. EPA).

The following recommendations were made in a memo dated September 9, 1988 from the Director of Public Works Department to the Board of Selectmen. He refers to the above memo and.....

“As reported to the Selectman and Fincom on June 30, 1988, an additional \$10-\$15,000 was estimated to complete the corrective work.”(Selectman/Finance Committee)

“It is clear.....to me that there are serious problems still remaining in this area that must be dealt with in an organized manner.” This is presumably a reference to additional leaks and repetitive cost. (Selectman/Finance Committee)

”.....seeks an endorsement from the Board (Selectman) to expend emergency expenses funds immediately to address the short tern solution and to prepare a plan to address the capital costs that may be necessary if dredging and the relocation of the force main are required.”(Selectman/Town Meeting)

At first blush, it appears no action was taken on Items 2 and 3 above or if so, there is no evidence of an immediate urgency i.e. need for engineering study.

### The Needham Conservation Commission Voices Its Concern

The Needham Conservation Commission requested a clarification of the test data before giving final approval of Item 1 (chemical treatment). Although Federal wetland regulations didn't become a force till the 1990's many municipalities enacted ordinances to protect their own natural resources. The use of certain herbicides and pesticides (i.e. copper sulfide) were known to be problematic. In a memo to The Commission dated September 30, 1988 ACT explained their recommendations:

“Based upon sampling conducted immediately upon identification of the sewer leak, the data indicated that phosphorus and bacteria levels were significantly elevated in the water column. Additional sediment samples were then collected, which demonstrated that the sewer leak had significantly increased sediment phosphorus concentrations. Based upon this information it was apparent that for restoration of damage caused by the sewer leak, the pond would need to be dredged.”

“Although action could not be taken immediately for dredging (engineering studies/approvals), the urgency of the situation has not lessened.”

“It is unacceptable to allow the continuation of impacts to the pond and downstream ecosystems when an immediate, corrective action is available. The proposed treatment of the Sportsman's Club Pond with aluminum sulfate (alum) will reduce impacts within the pond and on downstream systems from potential bacterial contamination and excessive phosphorus concentrations.”

In conclusion, ACT states:

1. “the proposed treatment does not involve the dredge, fill or permanent physical alteration of wetlands.”
2. “no adverse impacts to the pond downstream systems are expected.”
3. “the continuation of existing conditions may contribute to long-term impacts of unquantifiable proportion to the pond and downstream water systems.”
4. “the proposed immediate treatment of the Sportsman's Club Pond constitutes an emergency remediation of the problem directly associated with the prior sewer leak.”

Note: ACT makes no reference to copper sulfate; however in Attachment “A”, detailing application of proposed alum sulfate, it is stated copper sulfate would be used if needed. The latter is very toxic to trout however precipitates from the water in a matter of days.

There is no record of the Commission's response although some time in October 1988 Roland Stewart, Club President, sent out a memo to all members explaining the events of the sewer break and the "restoration project" that included dredging and relocating the sewer line within 2-3 years. Chemical treatment (alum sulfate and copper sulfate) and water/soil testing will continue during this period. He further stated the Town has taken full responsibility for all cost associated with the break and pond restoration. The pond is being restocked (at Town expense) with opening day scheduled for Oct. 29. There is no reference to the significant drop in membership but stated all dues (\$60/) paid on the 29th would be good through 1989. Records show a treasury balance of \$586 at the close of 1988. One final comment.... "We are also instituting a 'catch and release' policy until further notice".

### No Final Solution in Sight

The years from October 1988 through March 1994 seem to be a period of total frustration for the Club. The few memos available reveal continuing problems with water quality. ACT's test results shows 1 out of 3 tests are marginally acceptable indicating continuing problems with leaking joints coming from the gorge. The Town repairs each as it is detected, unfortunately only a temporary solution till another appears.

Chuck Capone, as member of the Board, under President Danny Socci becomes Club representative for all dealings with Town and ACT. This is a very important move because of his relationship and knowledge of how the Town's Public Works functions.

In 1989 the Town, for some reason contrary to ACT recommendation, elects not to authorize the alum treatment. In an attempt to maintain water quality and fishing, the Club elects to spend the \$2000 for the application. This is felt necessary, in an attempt to prevent further erosion of Club membership which is putting sever burden on the treasury (standing at \$5900 before expenses).

In a June 4, 1989 memo to the Needham selectmen, the Club goes on record....."Despite assurances.....that the town would be taking immediate remedial action per the recommendations of ACT, excepting an alum treatment in the fall of 1988, no long term remedial action has been taken by the town or its agents."

"The membership of the Needham Sportsman's Club request a Statement of Intent.....be set forth of remedial action to this ongoing hazardous situation."

This latter statement indicates a veil threat of legal action.

There is no record of a Town response to the Club however the Sewer Division request ACT to perform additional test which reveals interesting results.

In a memo dated May 2, 1990 from ACT....."The coliform results at Station 4 (up in the gorge) are indicative of sewage. Volume of flow from this apparent leak did not visually appear to be more than a 'seep'."

“The elevated total coliform counts in the pond may be due to other sources of contaminations...up stream and /or storm water runoff.”

“.....algae which undoubtedly contribute to the somewhat ‘brownish’ color of the water. Transparency or clarity of the pond water was fair/poor....”

In another memo dated October 15, 1990 from ACT.....”Station 1 (up in the gorge) exhibited higher than acceptable levels of bacteria and phosphorus.....Comparison of fecal coliform to fecal streptococci ratio suggests the fecal source may be animal rather than human origin.”

“The water color has an ‘olive green’ tinge.....there was no ‘surface scum’ of blue-green algae.”

“Temperature-oxygen profiles were also taken at a couple of locations in the pond to assess the effect and anticipated benefit of pumping cool well water into the pond (the Club had activated the well)..... measured elevated oxygen could be important and beneficial to sustain trout....”

“...we would not recommend any chemical (alum or algicide) treatment at this time.”

### Frustration Forces a New Tact

Chuck Capone takes over as President in 1991 making it his personal mission, ‘convince the Town it had not fulfilled it’s obligation to restore the Club pond per ACT’s recommendations’. With Club membership some where below 40 and a treasury close to insolvency he request dues be raise from \$60 to \$100 per year. The alum treatment had depleted what little reserve there was.

As a contractor in Town, Chuck had a good working relationship with the lower level managers in the Public Works Department. They were all aware of the sewer break but unable to expend funds with out authorization. These were difficult times financially for municipalities and most major public works projects were being delayed. It is obvious Chuck was frustrated when writing the June 4, 1989 memo above to the Needham Board of Selectman, he wanted more decisive action. May be the threat of a law suit would help. It is very possible the Town knew the Club’s financial situation and no law suit would be forth coming.

However it is obvious, sending copies to the Needham Conservation Commission and Mass. Division of Water Pollution Control (predecessor of the EPA) was a cry for help.

He continued interfacing with Richard Mercer, Supernatant of Sewer Division, concerning the sewer line in the gorge. Alum treatments seem to have stabilized phosphors and bacteria counts however water quality and clarity was not getting any better. It appeared the Town, for various reasons, was not taking any immediately action in regards to removing the force sewer line or dredging the pond. The engineering studies to relocate the sewer line will take 2-3 years and dredging couldn’t start till the line is removed.

Chuck had been doing his own research and making inquires on how to stabilize the pond so members could continue fishing for the next few years. ACT once again recommended, in addition to the alum treatment, the Club consider purchase or renting an

aerator to stave off oxygen depletion caused by the pollutants. Jerry Smith, President of ACT, had taken a personal interest in the pond. Since the initial break, he and Chuck worked closely trying to develop various options in keeping the Club viable awaiting Town action. Chuck requested a proposal from ACT for rental of an aerator with an option-to-buy.

By 1991 membership stood at 90, still remaining precariously low with the Club just making expenses. A dwindling membership with only a promise from year to year was not encouraging, in fact it appeared only a matter time until insolvency. Chuck proposed the Club offer the forty or so members, a one time life membership for \$500. This was necessary to build up a reserve against pending expenses; the number accepting the offer would determine the capital he had to work with. Ten members came forward giving the Club a total of \$5000.

Chuck had a plan and in an April 13, 1993 memo to Richard Mercer he summarized all that had taken place since the initial testing in 1987, subsequent break and what the Town had accomplished thus far. He referenced ACT's test report, their recommendations and the Town's follow up actions:

“Three options were given”; 1. Do Nothing, 2. Dredging or 3. An Alum Treatment.... “Option 3 treatment was done in the fall of 1988 and activities continued, due to problems with the treatment, 1988 was a total failure for the Needham Sportsman Club”.

“In the summer of 1989, due to continuing problems.....further chemical treatments of the pond were recommended. This time the Club absorbed the cost of \$2000 (a very substantial part of our annual budget). The treatment had poor results and the red flags were up again. Another leak was discovered and repaired in the gorge the following summer” (1990)..... “The Club feels that there is a feeling of frustration on the Town's part about what to do with the ongoing situation of recurring leaks and damage that has occurred to the pond from previous leaks”.

Chuck goes further to explain his research and viability of using aerators in maintaining water quality and undo some of the damage already done. The Club request the Town to purchase an aerator (\$2500-3000/unit) while the Club would pay for installation and operating cost (\$500 plus, \$150/month).

“I feel the money....better spent on maintaining the current situation to satisfactory levels then spending money on studies telling us what we already are aware of. But, some action must be taken to insure the survival of the Club as a place for the members to fish and socialize and the Town to skate and enjoy....”

It is obvious no action was taken because the pond was drawn down during the summer of 1993 and ACT was called in to performed additional test. These test indicated significantly high coliform bacteria counts at the inlet, obvious another line break in the gorge.

Drastic Measures are Now in Order

Totally frustrated, Chuck seeks a legal opinion from the law firm of Grindle, Robinson & Kertzman. In a memo from Al Robinson dated February 14, 1994.....”I have spoken with Carl Valente and also Rick Mercer, who think that a meeting of their respective department personnel (Public Works & Sewer) as well as representatives from the club would be the thing to do.....If you want to push the issue further, the club would have the right to ask an appropriation be included on a warrant for the town meeting.... You have the right to force the call of a special town meeting..... Having spoken with Carl and Rick, though, I am less inclined to think that you should proceed that way but rather should try a meeting first”.

There is no record of what transpired or if a meeting was even held however discussions with Chuck indicated, even though he had an excellent working relation with both Carl and Rick, it was obvious their hands were tied. Off the record comments from Town sources indicated initial estimates to dredge the pond were \$90,000 in addition, relocating the sewer line was problematic and going to be costly. The Town was investigating the possibility of combining the sewer relocation with a state funded reconstruction of Great Plain Avenue, (a state roadway, Route #135). This could delay any action indefinitely.

Three weeks after the above memo, a letter dated March 8, 1994 from the Needham Sportsman Club, Board of Directors to the Town of Needham Public Works/Board of Selectman, tells it all.

“Following is a list of items that we wish to cover at the meeting scheduled Tuesday, March 15, 1994”.

“The following remedies are put before you by the....Needham Sportsman’s Club. We strongly feel we are receiving more and more impact from the continuing sewer main leaks as warned by Aquatic Control Technology, Inc.” In a letter to the Conservation Committee dated September 30, 1988.....”The continuing problems have lead to poor fishing, steady declining water quality and a drastic drop in membership, which we feel could lead to the closing of the ....Club. This would prove to be not only a loss to the members and townspeople but an embarrassing statement of environmental value for the Town.”

Proposed remedies:

1. “Remove and relocate force main/dredge pond returning it to a state acceptable to the standards of an urban pond.”
- 2 “Drain pond and clamp all existing unclamped joints beneath the ponds surface. Excavate and clamp all joints at rear corner of pond to point where they enter the gorge.”
3. “The purchase and installation of two AIRE-02 Airetors as described in my letter to Mr. Richard Mercer dated April 13, 1993.....The Club will assume the cost to operate.....purchased in thirty-day intervals so the effect may be observed before the purchase of the second unit.....”
4. “In all cases.....water quality testing should be done in the spring, summer and fall so that problems are detected early.”

“The ....Club, its Directors and members sincerely hope we can work these problems out in a timely ..... but emphasize that time is of the essence due to the drop in membership and rapidly deteriorating conditions at the pond.”

There is no record as to what action the Public Works or Selectman took however Chuck stated the Town procured one aerator which improved water quality. The second aerator was never purchased, possibly by mutual agreement because the Town felt the benefit didn't justify the cost and the Club's operating cost (\$200/month) was excessive. A test report from ACT dated November 23, 1994 indicated water quality was fairly normal except for the high coliform bacteria counts at the inlet once again

Chuck relinquishes presidency of the Club to Paul DiFilippo in January 1995 however agrees to carry on as Club representative and interface with the Town on pond issues.

### Finally Some Movement

There is no documentation to indicate the Town was taking action till a “Revised Scope of Work” notice was released by Richard Merson, DPW Director, dated September 26, 1996 titled “Great Plain Ave. Sewer Force Main Replacement”. The notice stated conflicts between proposed relocation of the sewer force main had been resolved. It further made note, the Town force main would be relocated at the same time the Mass. Highway Department performed reconstruction work on Great Plain Avenue (no date specified).

Of special note, included in the “Revised Scope of Work” was a reference to the “feasibility of installing a sewer service connection to service the Club House and the possibility of including it in the contract work, or to have the contractor on-site undertake the installation for the Club.” Also added to the feasibility study was a proposal to increase the depth of the existing Club well head from 50' to 300'. This would provide increase pumping capacity needed for the sewer service but more importantly, increase volume of cool water being added to the pond during warm summer months.

The notice further stated the preliminary design prepared by Chuck for the above work was acceptable to the DPW however final approval came under jurisdiction of the Conservation Commission.

For many years the need for a sewer connection i.e. kitchen and proposed toilet facility had been discussed but cost estimates were prohibitive. The cost this time (\$8,500 estimate) was more than the Club was willing to spend.

The need for cool fresh water was a higher priority and authorized Chuck to request the necessary permit and start drilling. Unfortunately, after drilling to 400' and pumping a marginal 15 gal. /min. the drilling company felt they would not reach the goal of 50gal. till 450-500'. Chuck elected to cut the Club losses and stop drilling. Although it appeared a waste of almost \$5000, fisheries experts still say the infusion of cool fresh water and aerators are the answer to year round trout sustainability.

### Progress at Last

With a confirmation the force main was finally going to be relocated, Chuck requested a series of meetings putting pressure on the Town to get things moving. From several hand written tel-cons from Chuck's file, it appears Al Robinson was contacted for legal advice and guidance.

During March 1997, Chuck contacted the following Town department heads documenting his concerns and their responses:

1. Roy Crammer, Chairman Conservation Commission  
Very concerned and agreed to get budget prices on dredging.
2. Carl Volante, Town Administrator  
Agreed to arrange a meeting with representatives from Board of Selectman.
3. Rick Merson, Director of Public Department  
Will work with Club on an additional water treatment.

Although there is no reference to a meeting (Item 2) with Carl Volante and the Board of Selectman, there is Chuck's hand written note with four recommendations for legal action Al Robinson could take on behalf of the Club.

1. Clean the pond - dredge
2. Restitution \$5K a year for 10 years or \$50K
3. Assurance it will not happen again
  - a) Take length of pipe out
4. Immediate action
  - a) Alum treatment
  - b) Copper sulfate treatment
  - c) Restock pond at Town expense

There is no record or minutes of the above meetings however Chuck stated there were so many meetings and conference calls it was impossible to keep detail records. In summary he said:

1. The plans for relocating the force sewer main were complete, awaiting funding and coordinating with the Mass. State Highway Department.
2. ACT had been requested by the Town to submit a dredging feasibility study.
3. The Town would remove the old sewer line at the time of dredging.
4. The Town agreed to fund chemical treatment and restocking for the spring of 1997 at a cost of \$3850.

To pursue remuneration as recommended by Al Robinson, would take years and a costly protracted legal battle the Club was not willing to engage in.

The Long Process is Finally Started

The “Dredging Feasibility Assessment” was submitted to the Town on April 18, 1997 by ACT:

“The entire dredging project is broken down into the following phases:”

- Phase 1 – Dredging Feasibility and Project Design
- Phase 2 – Permitting
- Phase 3 - Implementation

“Completion of Phase 1 is necessary in order to provide cost estimates for the final two Phases of the project. This letter will outline our cost for the required tasks associated with Phase -1. Projected costs for Phase 2 and Phase 3 are included for budgetary purposes, however, these prices are subject to change and firm costs cannot be provided until project design is complete.”

ACT estimated: Phase 1 at \$9,780  
Phase 2 at \$3,000-3,950  
Phase 3 at \$65,000- 97,000

The time frame for Phase 1 was estimated to be 2-3 months followed by 3-4 months for Phase 2, all being contingent on funding and a smooth approval cycle. Actual dredging time would depend on method used but estimated at 2-3 months.

For some reason the Town didn't release a contract for Phase 1 till sometime in early 1999. It is possible the procurement process required competitive bidding.

ACT was awarded the contract for a “Dredging Feasibility Study and Project Design” (Phase 1) and submitted their first DRAFT dated May 1999. This initial document was just over 20 pages as compared to revision “A” in September 1999 and revision “B” in January 2001 both in excess of 60 pages.

Chuck met numerous times with the Public Works Department as well as members of the Board of Selectman requesting clarification, making recommendations and suggesting changes. Reviewing his notes indicate most of the Club comments were incorporated in the final version. However it must be remembered Chuck and Jerry Smith (ACT) had become close friends and he learned a great deal about water resources from Jerry during previous 10 years.

Finally on May 7, 2001 at the Needham Town Meeting, Article 45 of the Town Warrant, \$130,000 was requested “...for funding to dredge, transport and dispose of these sediments, and to construct an adjacent sedimentation pond....”

In a memo dated May 21, 2001 the Needham Public Works Department....” authorized, Aquatic Control Technology, Inc.....to act in our behalf as our agent....in support of this permit application.”

Several items identified in the Phase 1 Design Study, were of particular interest to the Club. These were all addressed and incorporated in Phase 2 however in Phase 3 Dredging one or more were either removed or never verified. The following is a summary of these:

#### Phase 1 Project Design

“In addition to water shed inputs and other natural processes that have caused sedimentation and eutrophication in to pond, the sewer line (now inactive) located beneath the pond has experienced at least 5 failures since 1988.....Subsequent testing in the summer showed a significant increase in phosphorus concentrations as well as oil& grease and total volatile solids in the top layer of the sediments (upper 2”).....”

“The primary motivation for this project is to respond to this sedimentation/sewerage contamination and hopefully address the chronic algae blooms and high bacteria counts seen at the pond. The anticipated goals of the dredging project are to deepen the pond, remove a significant source of nutrients to the pond. Dismantle the active line and create a forbay settling basin to minimize future sedimentation to the pond.”

“Although the watershed is densely populated with a minimum of natural featured to mitigate stormwater and quality, the primary use of the area is residential. There are still, however, significant sources of nutrients and suspended solids to the Sportsman’s Club pond. In fact, the pond is the first major settling area in the watershed that eventually leads to Rosemary Lake/Brook and the Charles River. The maintenance of the Sportsman’s Club Pond therefore is paramount to protecting the downstream resources in the drainage basin.”

“To improve to solid handling capability of the pond system and to reduce the extent of future maintenance dredging requirements, we propose that a forbay settling area be created by building a barrier across the pond to redirect incoming sediment laden water. Modeling of the system has indicted that the entire pond currently removes about 83% of the solids incoming fro the watershed. This construction of the forebay will perform slightly above this rate of removal (85%) in that area alone. This will significantly reduce the sediment loading to the remainder of the pond.....”

#### Phase 2 Permitting

Phase 2 incorporated all the necessary design documents, cost estimates and permits required by the various agency approvals.

All challenges and requests for clarification during the permit review cycle were satisfied with except of one.

In a memo dated September 6, 2001, Department of Environmental Protection (DEP) turned down the building of the forebay/weir.

“The construction of the proposed weir and dredging to create a forebay for the detention and treatment of stormwater is not a permissible facet.....unless there is no practicable alternative and best management practices are implemented to prevent sedimentation. On

the basis of the material presented.....there is insufficient evidence to support the argument that there is no practicable alternative ....”

In a follow up memo dated September 7, 2001, Office Environmental Affairs (OEA) further clarifies the dredging permit.

“I hereby determine that this project does not require the preparation of an Environmental Impact Report.....The elimination of the gabion weir as a project element has reduced the potential impacts of the project to the point where preparation of an Environmental Impact Report is unwarranted.”

The Department of The Army, Corp. of Engineers gave their final approval in a memo dated March 14, 2002.

“Enclosed are two copies of a Department of the Army permit authorizing the work described therein. Your signature is necessary to execute this permit.”

### Phase 3 Implementation

Thanks to Rollie Johnson, a long time member, Past President and retired Superintendent of the Needham Public Works Department for his assistance in understanding the Town’s dredging plans.

The time consuming process to obtain dredging bids resulted in 3 bids, all exceeding \$160,000, far more than allocated in the Town warrant. The Public Works Department informed the Selectman, they felt the dredging could be done “in house” and with-in budget. In what some Club members thought to be controversial decision, the Selectman gave the authorization.

(In fairness to the Selectman, they appear to have been taking some heat from tax payers that opposed the Town Warrant, going on public record disagreeing with the expenditure of tax money for a private club.)

In addition to the above, Club member had the following concerns:

- \* A decision not to hire ACT or a third party engineer as on-site manager to verify compliance
- \* There was no contour map showing actual pond depths.
- \* Design estimates were for~~3200 cu. yd. to be removed, there is reason to believe no more than 1500 cu. yd. was the final number. The difference could have been utilized to increase pond depth in the shallower areas.
- \* Under cutting of the south western embankment was so severe the Conservation Commission requested the area be backfilled to prevent erosion.
- \* The dam embankment at the driveway entrance (used as staging area for dredged removal) was never restored properly. Granite blocks shifted and there has been dam leakage in that area since the dredging.

\* Grate in the culvert below the dam was damaged and never repaired.

\* The most serious mistake by the Town was the decision to withdraw design and installation of the gabion weir and forebay settling area. They had no choice; they could not meet the Corp of Engineer's requirement as stated in the approval memo above. Probably more important, it saved the Town \$28,500 the cost of the weir.

### Dredging

As mentioned, final approval was received in March 2002 however the bidding and decision process was not complete till summer. The Town permits were for 90 days and the Club was informed dredging would commence with the drawdown in August. On September 10 the original force sewer line was removed from the pump station up to a point where it enters the pond. The remaining line from Mark Tree Road to the pond was capped at both ends.

With the exception of the Phase 3 comments above, work was uneventful until some time in October. It was at this time a 12" water main burst on Chestnut St. a residential area above the pond.

Ironically the Club pond was the storm basin collection system and in a matter of hours all dredging equipment had to be evacuated and work halted.

The deepest part of the pond was now under 6' of water and it would take several weeks for the pond to be pumped and base sediment dry enough to commence dredging again. This exceeded the 90 day license period; all work was terminated.

Permitting agencies were notified and requests for an extension of the existing permits through the fall of 2003, all were granted.

The pond was drawn down in August, dredging continued through September and completed in time for the fall season. As previous agreed the Town paid for the stocking.

Except for the minor concerns above, the Club had a new pristine fishing pond. Membership increased with new members and some that had lapsed returned. The Club house received some much needed maintenance and the grounds were cleared from years of growth and neglect. In a few words the Club was revitalized.

### Epilogue

With-in 4 years (2007) after dredging, the pond developed weed and algae problems very similar to what was occurring years earlier. Fishing after the middle of July was just about impossible because of water clarity and green surface algae.

By 2010, silt and sediment had reclaimed the pond entrance. What was 4-6' after dredging was now 1-2' extending in an arc from the pond entrance 40' into the pond. It appeared trash fish i.e. sun fish, blue gills shiners, etc had taken over the pond. This is always a concern in stocked ponds because they compete for the same food as trout. However it is known, a clean oxygenated pond that can sustain a population of healthy

trout will keep trash fish in check. There was talk, once again of need for an aerator and a source of clean cool water.

In the spring of 2011 the Town of Needham contracted the Water Resources Services Inc. to investigate the Town's compliance with the "Special Conditions" set forth in the Needham Wetlands Protection Bylaw (#234-577) as it applies to Rose Mary Pond (Lake).

WRS report dated July 29, 2011 refers to the Club Pond because it is in the same water plain and a source of Roes Mary Pond's water. It implies the Club has severe water quality issues because of clarity, algae, oxygen depletion, etc.

As of this writing, the Club has requested the Town (in light of WRS's report) for help, by investigating the possibility of diverting storm drain water in-flow to the pond, a known source of the water degradation.

#### Acknowledgments

I would like to thank all those that helped with inputs to this report, in particular Chuck Capone, for his guidance and use of his personal file as an accurate reference. To Rollie Johnson, for all the dredging information and his years of faithful service to the Club. To Danny Socci, for keeping me on track concerning the water problems and all his years of service to the Club.

Ray Capobianco  
[antiqanglr@verizon.net](mailto:antiqanglr@verizon.net)  
February 10, 2012