



Town of Amesbury
Lakes and Waterways Commission
Meeting of January 26, 2012
Amesbury Health Center

DRAFT MEETING MINUTES:

Commission members present: Bruce Georgian, Eric Bezanson and Cindy Roberts
Amesbury town engineer present: Peter Manor
Guests: Sy Bourgoin representing Clarks Pond, Ben Siebeker and Ken Aspeslagh

The meeting began at 6:50 PM.

- A. **Previous Meeting Minutes:** The meeting minutes from December 15th, 2011 were approved.
- B. **Engineers Report:**
- a. Lake Gardner is down 1 foot.
 - b. Tuxbury is at normal pool.
 - c. The Tuxbury Campground hearing has been continued until March 19th.
 - d. Lake Attitash was drawn down to 94.1 and at least one resident had well issues. The lake was brought to 94.5 and the well is operating. The DPW will look into the well issues to determine if anything further can be done.
 - e. No word received back from NH DES regarding trees down on the Powow.
 - f. The R street bridge is not under FEMA. An earlier design did not work. Replacing the bridge is outside of the town's control.
 - g. Fern Avenue – Getting FEMA funding; longer concrete slab and new abutments
 - h. **Action: Peter is going to touch base with Rob and Stephanie Hanson to see if there is a possibility for a 604b grant to assess Tuxbury/Meadowbrook Pond and/or Clark's Pond.**
- C. **Communications:** Bruce met with the Mayor. Mayor Kezer is working to get \$8,000 for the Lake Gardner mussel study. It has been recommended that we present to the municipal council the need for an annual budget.
- D. **Lake Gardner:** The Lake Gardner 604b report developed by CEI (Comprehensive Environmental Inc.) has been reviewed by Bruce and Peter. The Commission reviewed parts of the report with Peter Manor.

ACTION: Bruce needs to work with Peter and Rob to prioritize and estimate the cost for improvements so that the work can be budgeted.

- a. The 50-foot vegetated buffer for farms should be reviewed with the Amesbury Conservation Commission.
- b. Mussel survey status: No funding yet available.

- c. Paid parking at the beach will no longer be pursued.

- E. **Tuxbury Pond:** Peter Manor will be attending the upcoming public hearing with the South Hampton planning board in regards to the Tuxbury Pond Campground (proper septic system, in-compliance with NH DES and testing results).
ACTION: Peter is going to request that Amesbury receive the water testing results performed by Biomarine on a regular basis. The town is concerned with fecal matter and poor water quality caused by the Campground.
ACTION: Jay is going to see if the water testing results are public record.

- F. **Clarks Pond:** Sy wrote up some information of the current situation on that pond including some history of the conditions for the Assessment Report. In addition, he brought a historical aerial photo of the pond.
ACTION: Cindy to include this information in the assessment document.
ACTION: Ken to email Cindy the photo of the enlarged aerial photo from Sy.

- G. **Meadowbrook Pond:** Richard wrote up some information on the pond and delivered it to Cindy. It has been included in the assessment document.

- H. **Lake Attitash:**
 - a. Fundraising for milfoil treatment is still in progress.
 - b. The Lake Attitash Association is awaiting the EPA's results on the nutrient budget.

- I. **Park Pond:** Drainage issues. No status

- J. **Pattens Pond:** Drainage issues. There is a beaver dam on that pond. No status

- K. **Assesment Document:**
ACTION: Cindy will continue to work on the Assessment Document.

The meeting adjourned at 8:05.

The next meeting is scheduled for February 16th at 6:30pm at the Amesbury Health Center.



Town of Amesbury
Lakes and Waterways Commission
Meeting of February 16, 2012
Amesbury Health Center

DRAFT MEETING MINUTES:

Commission members present: Bruce Georgian, Eric Bezanson and Cindy Roberts
Amesbury Director of Public Works: Robert Desmarais

The meeting began at 6:36 PM.

- A. **Previous Meeting Minutes:** The meeting minutes from January 26, 2012 were approved.
- B. **Engineers Report:**
1. Lake Gardner is down 2 feet.
 2. Lake Attitash is at 94.9’.
 3. The Tuxbury Campground hearing has been continued until March 19th.
 4. Weir lawsuit is on-going.
 5. Bruce and the DPW will be looking into some storm drain improvements around Whitehall Road and Orchid Heights: Structural BMPs.
 6. **Action: Peter is going to touch base with Rob and Stephanie Hanson to see if there is a possibility for a 604b grant to assess Tuxbury/Meadowbrook Pond and/or Clark’s Pond.**
- C. **Communications:** No communications update
- D. **Lake Gardner:** The Lake Gardner 604b report developed by CEI (Comprehensive Environmental Inc.) has been reviewed.
1. **ACTION: Bruce is continuing to work with Peter and Rob to prioritize and estimate the cost for improvements so that the work can be budgeted.**
 2. Storm drain improvements being planned for around Whitehall Road and Orchid Heights: Structural BMPs.
 3. Video inspection of the sewer pipe that goes across the lake will be done this year or next.
 4. The 50-foot vegetated buffer for farms should be reviewed with the Amesbury Conservation Commission.
 5. Mussel survey status: No funding yet available.
- E. **Tuxbury Pond:** Peter Manor will be attending the upcoming public hearing with the South Hampton planning board in regards to the Tuxbury Pond Campground (proper septic system, in-compliance with NH DES and testing results).
1. **ACTION: Peter is going to request that Amesbury receive the water testing results performed by Biomarine on a regular basis. The town is concerned with fecal matter and poor water quality caused by the Campground.**
 2. **ACTION: Jay is going to see if the water testing results are public record.**
- F. **Clarks Pond:** The assessment document has been updated to include this pond.
1. May be a possibility for a 604b grant.
 2. **ACTION: Ken to email Cindy the photo of the enlarged aerial photo from Sy.**
- G. **Meadowbrook Pond:** No update

- H. **Lake Attitash:**
 - 1. Fundraising for milfoil treatment is still in progress.
 - 2. The Lake Attitash Association is awaiting the EPA's results on the nutrient budget.
- I. **Park Pond:** Drainage issues. No status
- J. **Pattens Pond:** Drainage issues. There is a beaver dam on that pond. No status
- K. **Powow River:** Should be included in the assessment document.
ACTION: Cindy to contact Jon Higgins for any available update
- L. Assessment Document: In progress

The meeting adjourned at 8:00.

The next meeting is scheduled for March 15th at 6:30pm at the Amesbury Health Center.



Town of Amesbury
Lakes and Waterways Commission
Meeting of March 15, 2012
Amesbury Health Center

MEETING MINUTES:

Commission members present: Bruce Georgian, Eric Bezanson, Jay Knapp, Ken Aspeslagh and Cindy Roberts

The meeting began at 6:36 PM.

- A. **Previous Meeting Minutes:** The meeting minutes from February 16, 2012 were approved.
- B. **Engineers Report:** No engineer present
1. **ACTION:** Peter is slated to touch base with Rob and Stephanie Hanson to see if there is a possibility for a 604b grant to assess Tuxbury/Meadowbrook Pond and/or Clark's Pond. Cindy will email him.
 2. Peter to attend the March 19th meeting on Tuxbury Pond.
- C. **Communications:** No communications update
- D. **Lake Gardner:** The Lake Gardner 604b report developed by CEI (Comprehensive Environmental Inc.) has been reviewed.
1. **ACTION:** Bruce is continuing to work with Peter and Rob to prioritize and estimate the cost for improvements so that the work can be budgeted.
 2. Whitehall Road – Condo Association – town owned property in which there is an easement for the Condo Association. It contains machinery, rock salt and a chicken coup. It is also used for oil changes and is a detriment to Lake Gardner. Some correspondence occurred with John Lopez, but we're not sure what is happening next. **ACTION:** Eric will pursue the matter.
 3. Video inspection of the sewer pipe that goes across the lake will be done this year or next. **ACTION:** Bruce will pursue getting this on a schedule.
 4. The 50-foot vegetated buffer for farms should be reviewed with the Amesbury Conservation Commission. The board believes a meeting with the Conservation Commission may be beneficial.
 5. Mussel survey status: No funding yet available. **ACTION:** Eric will look into some additional questions, such as whether a mussel survey and moving mussels needs to be done each year for a drawdown.
- E. **Tuxbury Pond:** Peter Manor will be attending the upcoming public hearing on March 19th with the South Hampton planning board in regards to the Tuxbury Pond Campground (proper septic system, in-compliance with NH DES and testing results).
1. **ACTION:** Peter is going to request that Amesbury receive the water testing results performed by Biomarine on a regular basis. The town is concerned with fecal matter and poor water quality caused by the Campground.
 2. **ACTION:** Jay is going to see who does the water sampling for Tuxbury Campground.
- F. **Clarks Pond:** The assessment document has been updated to include this pond.

1. Possible 604b grant. Peter is looking into this.
- G. **Meadowbrook Pond:** No update
- H. **Lake Attitash:**
1. The Lake Attitash Association has enough funds for the milfoil treatment this summer. The municipal council approved a \$45,000 appropriation, which will go towards the treatment.
 2. The Lake Attitash Association is awaiting the EPA's results on the nutrient budget.
- I. **Park Pond:** Drainage issues. No status
- J. **Pattens Pond:** Drainage issues. There is a beaver dam on that pond. No status
- K. **Powow River:**
- L. **1. ACTION: Ken will work on obtaining information on the Powow River for the assessment document. Cindy will provide him with some info to get him started.**
We're awaiting information from John Higgins, who was the president of the Powow Association.
- M. Assessment Document: In progress

The meeting adjourned at 8:15.

The next meeting is scheduled for April 16th at 6:30pm at the Amesbury Health Center.



City of Amesbury
Lakes and Waterways Commission
Meeting of April 26, 2012
Amesbury Health Center

MEETING MINUTES:

Commission members present: Bruce Georgian, Ken Aspeslagh, Cindy Roberts, Jay Knapp and Ben Siebeker

The meeting began at 6:40 PM.

- A. **Previous Meeting Minutes:** The meeting minutes from March 15, 2012 were approved.
- B. **Engineers Report: No engineer present**
1. Need to confirm whether Amesbury can still apply for 604b grants. Peter Manor had looked into 319 grants for Tuxbury Pond, Meadowbrook and Clarks Pond, but 319 grants are not available because of the size of Amesbury.
 2. Need to confirm whether Peter attended a March 19th meeting on Tuxbury Pond.
 3. Bruce gave a quick engineer's update: Tuxbury and Lake Gardner are at normal pool. Meadowbrook and Attitash are below normal pool due to the Fluridone treatment plan. Tuxbury water is flowing into Meadowbrook.
- C. **Communications:** Bruce wrote a letter on behalf of the Lakes and Waterways Commission to Mayor Kezer in support of the DPWs efforts to improve the handling of storm water runoff that is greatly impacting the lakes, ponds and rivers in the city.
- D. **Lake Gardner:** The Lake Gardner 604b report developed by CEI (Comprehensive Environmental Inc.) has been reviewed.
1. **ACTION: Cindy to put the 604b study online.**
 2. **ACTION: Bruce is continuing to work with Peter and Rob to prioritize and estimate the cost for improvements so that the work can be budgeted.**
 3. Whitehall Road – Condo Association – town owned property in which there is an easement for the Condo Association. It contains machinery, rock salt and a chicken coup. It is also used for oil changes and is a detriment to Lake Gardner. Some correspondence occurred with John Lopez, but we're not sure what is happening next. **ACTION: Eric will pursue the matter.**
 4. Video inspection of the sewer pipe that goes across the lake will be done this year or next. **ACTION: Bruce will pursue getting this on a schedule.**
 5. The 50-foot vegetated buffer for farms should be reviewed with the Amesbury Conservation Commission. The board believes a meeting with the Conservation Commission may be beneficial.
 6. Mussel survey status: **ACTION: Eric will look into some additional questions, such as whether a mussel survey and moving mussels needs to be done each year for a drawdown.**
- E. **Tuxbury Pond:** Peter Manor will be attending the upcoming public hearing on March 19th with the South Hampton planning board in regards to the Tuxbury Pond Campground (proper septic system, in-compliance with NH DES and testing results).

1. **ACTION:** Peter is going to request that Amesbury receive the water testing results performed by Biomarine on a regular basis. The town is concerned with fecal matter and poor water quality caused by the Campground.
- F. **Clarks Pond:** No update
- G. **Meadowbrook Pond:** No update
- H. **Lake Attitash:**
1. The lake was treated with Fluridone on April 18th. Weekly monitoring is provided to both Amesbury and Merrimac's conservation commissions.
 2. The Lake Attitash Association is awaiting the EPA's results on the nutrient budget.
- I. **Park Pond:** No status
- J. **Pattens Pond:** Drainage issues. There is a beaver dam on that pond. No status
- K. **Powow River:** No status
- L. Assessment Document: In progress
1. **ACTION:** Cindy to send the document to the commission members
- M. Lakes and Waterways bylaws:
1. **ACTION:** Cindy to review how the amendment appears in the bylaws.

The meeting adjourned.

The next meeting is scheduled for May 24th at 6:30pm at the Amesbury Health Center. The Commission is going to work on the assessment document together to determine next steps.



City of Amesbury
Lakes and Waterways Commission
Meeting of May 24, 2012
Amesbury Health Center

MEETING MINUTES:

Commission members present: Bruce Georgian, Ken Aspeslagh, Cindy Roberts,
City engineer: Peter Manor
Guest: Alex

The meeting began at 6:45 PM.

- A. **Previous Meeting Minutes:** The meeting minutes from April 26, 2012 were approved.
- B. **Engineers Report:**
1. The Tuxbury Pond Campground hearing is now scheduled for June 2nd. Peter is planning on attending. Additional information is below.
 2. Tuxbury is a bit above normal pool. Lake Gardner is at normal pool. Attitash is about normal pool. Tuxbury water is flowing into Meadowbrook.
- C. **Communications:** Cindy Roberts is resigning from the Commission after 6 years. Ken Aspeslagh was voted in as the secretary of the Commission.
- D. **Lake Gardner:**
1. Whitehall Road – Condo Association – town owned property in which there is an easement for the Condo Association. It contains machinery, rock salt and a chicken coup. It is also used for oil changes and is a detriment to Lake Gardner. Some correspondence occurred with John Lopez, but we're not sure what is happening next. **ACTION: Eric will pursue the matter.**
 2. Video inspection of the sewer pipe that goes across the lake will be done this year or next. **ACTION: Bruce and Rob Desmarais will pursue getting this on a schedule.**
 3. Mussel survey status: **ACTION: Eric will look into some additional questions, such as whether a mussel survey and moving mussels needs to be done each year for a drawdown.**
 4. Cindy suggested looking into the milfoil weevil on Lake Gardner.
ACTION: Cindy to email Bruce the name of the company that commercially works with weevils to combat Eurasian Milfoil.
- E. **Tuxbury Pond:** Peter Manor will be attending the upcoming public hearing on June 2nd with the South Hampton planning board in regards to the Tuxbury Pond Campground (proper septic system, in-compliance with NH DES and testing results).
1. **ACTION: Peter is going to request that Amesbury receive the water testing results performed by Biomarine on a regular basis. The town is concerned with fecal matter and poor water quality caused by the Campground.**
- F. **Clarks Pond:** No update
- G. **Meadowbrook Pond:** No update

- H. **Lake Attitash:**
1. The lake was treated with Fluridone on April 18th to combat Eurasian Milfoil, Variable Milfoil and Curly leaved Pondweed. The 1st booster treatment went in on May 18th. Weekly monitoring is provided to both Amesbury and Merrimac's conservation commissions. Additional sampling will determine whether a 2nd booster treatment will be required.
 2. The Lake Attitash Association is awaiting the EPA's results on the nutrient budget to learn what our next steps should be to combat the cyanobacteria.
 3. Many blue-green algal blooms (cyanobacteria) have been confirmed on the lake this month. The MA DPH is testing weekly.
 4. The commission talked about cyanobacteria/blue-green algal blooms (caused by a nutrient overload) versus the Fluridone treatment to combat the invasive weeds. Some residents are not fully aware/informed that the treatment is not for the algal blooms.
- I. **Park Pond:** No status
- J. **Pattens Pond:** Drainage issues. There is a beaver dam on that pond. No status
- K. **Powow River:** No status
- L. **Assessment Document:** The document has been emailed to the Commission members. The next Lakes and Waterways Commission meeting will be spent on determining the upcoming goals.
- M. We briefly looked at the Commission bylaws to review our mission. Members of the commission are interested in the work being planned for the lower millyard as it relates to the Powow Riverwalk.
- N. The Commission may tour the city's waterways and structures to bring the new members up to speed.

The meeting adjourned at 8:15.

The next meeting is scheduled for June 21st at 6:30pm at the Amesbury Health Center.



City of Amesbury
Lakes and Waterways Commission
Meeting of June 21, 2012
Amesbury Health Center Cafeteria

MEETING MINUTES:

Commission members present: Bruce Georgian, Eric Bezanson, Alex Pooler, Ken Aspeslagh
City Engineer: Rob Desmarais

The meeting began at 6:42 PM.

- A. **Previous Meeting Minutes:** The meeting minutes from May 24, 2012 were approved.
- B. **Engineers Report:**
1. All lakes at normal pool.
 2. Lake Attitash is holding water back (no Fluridone has been released)
 3. Upcoming routine state inspections for Lake Gardner Dam and State Line Dam.
- C. **Watershed Tour:** Bruce proposed and commission agreed on tour of watershed at the next meeting.
1. To meet at Alliance Park at 6PM.
 2. **ACTION: Bruce to send invite to mayor and councilors, Con-Com, LGIA, LAA.**
 3. Rob clarifies spelling of Powow River for Alex.
- D. **Lake Gardner:**
1. Canoe race is Saturday
 2. Ken showed new LGIA brochure.
 3. Eric asked about Whitehall Condo parking area issue. Rob says it appears to be legal. Could not find violation. **ACTION: Response should be to refer to them to zoning or con-com and copy Denis Nadeau and John Lopez. Or have the complainant write written complaint to John.**
 4. Video inspection of sewage line as recommended by Commission per CEI report: Inspection has been bid out and scheduled to begin in July or August. Will cost about \$3000.
 5. Weevil Update: In lieu of drawdown, milfoil-eating weevils are an option the commissioning is considering. **ACTION: Bruce is going to reach out to the Weevil company.**
 6. Rob says there's no boat launch on Lake Gardner and we should have one. It has been pursued in the past.
- E. **Clarks Pond:** No update
- F. **Tuxbury Pond:** Commission is concerned about E. Coli levels around Tuxbury campground. Rob has checked it out and didn't find anything obvious. Not convinced water testing will find smoking gun. **ACTION: Rob says he will set aside \$500 to pay for testing at the dam. ACTION: Bruce to take care of logistiscs. ACTION: Rob to look into possibility of human-feces-only testing.**
- G. **Meadowbrook Pond:** Rob: some residents have had well issues.
- H. **Lake Attitash:** No update on Fluridone treatment.
- I. **Park Pond:** No status
- J. **Pattens Pond:** No status

K. **Powow River:** No status

L. **Goals:**

1. Goals should be achievable, measurable and meaningful. To report on goals at each meeting.
 - a. **Assessment Document:** Condition and key points of each water body
 1. **SPONSOR:** Bruce
 2. Document to be shared with mayor
 3. Not just a list of problems, but some potential solutions
 4. Assign a water body to each person or pick one for each meeting.
 5. **ACTION: Ken to email Cindy's Assessment Draft document to group.**
 6. Rob: There is already a document in existence: this would be a good place to start. **ACTION: Rob to try and find document and share with group.**
 7. Strategy for assessment document to be created at next meeting. Perhaps focus on one water body. More data to be gathered on watershed tour.
 8. Completion date: December 2012
 - b. **Coalesce Existing Waterways Data:** Rob would like to have data from all water bodies in one spot for his own analysis by pulling data from people who already have it.
 1. **SPONSOR:** Eric
 2. Rob to send contacts to Eric
 3. Completion: Ongoing goal but Eric to reach out right away.
 - c. **Get more members:**
 1. **SPONSOR:** Bruce
 2. Completion: 3 new members by February (already got one!)
 - d. **Lower Millyard Project**
 1. **SPONSOR:** Alex
 2. Boat-launch and bridges, etc. are within the scope of the commission. Should we have our fingers in the project in its conceptual stages or is it a hot potato?
 3. Write formal request for plans in Lower Millyard Project
 4. Offer to provide review comments and input to the project.
 5. Completion:
 - e. **Sponsor Cleanup on Powow River.**
 1. **SPONSOR:** Ken
 2. Rob will provide everything we need to get down there at low tide and pull out trash.
 3. Rob can provide direction on various focus areas that need cleanup.
 4. Completion: Plan for the Spring 2013
 - f. More goals to be thought of on the tour.

The meeting adjourned around 8:30.

The next meeting is the watershed tour at 6 PM..

2012 Watershed Tour

Tour Guides:

- Rob Desmarais — Director of DPW
- Pete Manor — Town Engineer

Attendees:

- Anne Ferguson — Municipal Counselor
- Bruce Georgian — Lakes & Waterways Commission Chairman
- Ken Aspeslagh — Lakes & Waterways Commission Member
- Alexander Pooler — Lakes & Waterways Commission Member

Summary

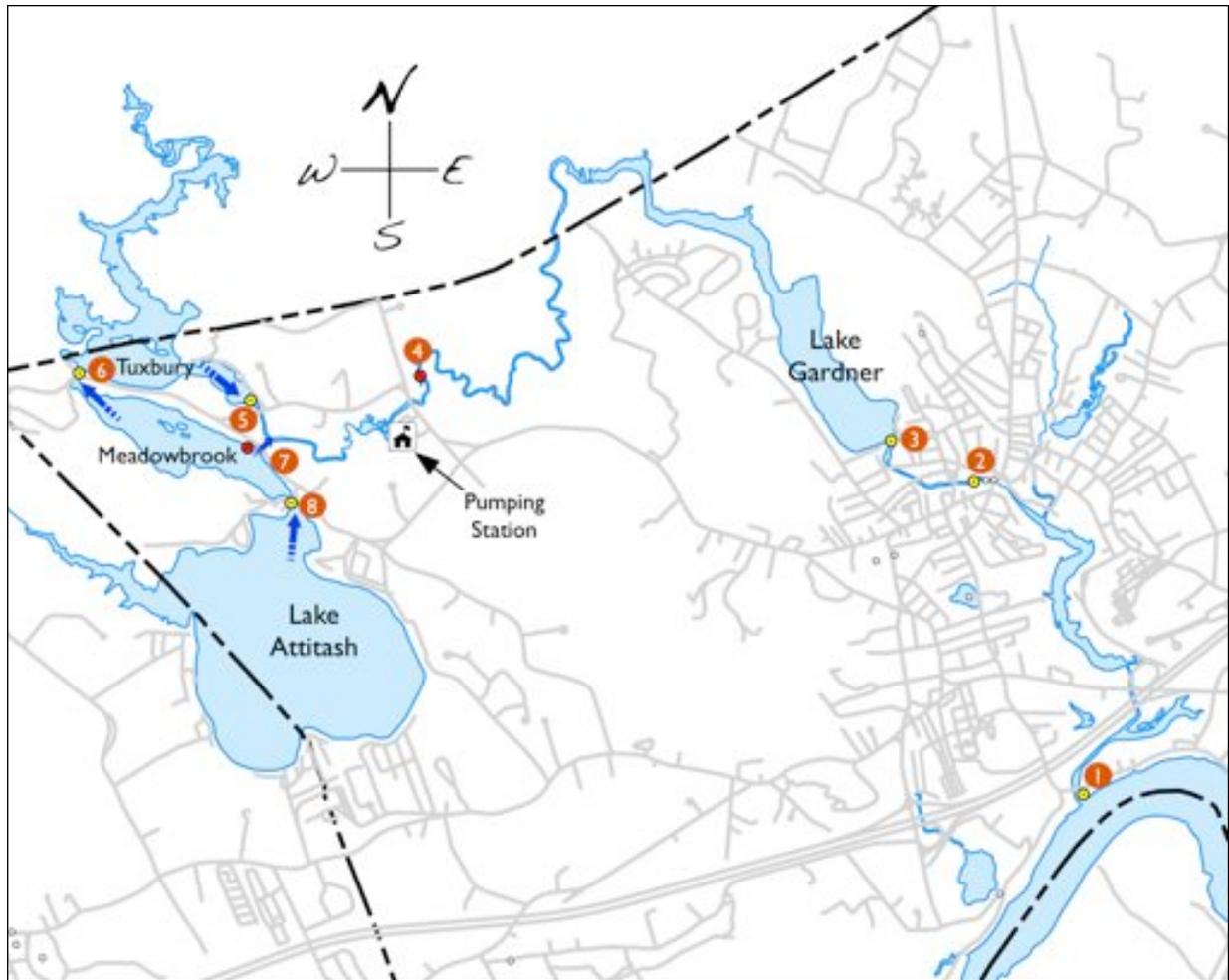
Members of the Lakes & Waterways commission and invited guests were given a tour of the many important water control structures that make up the Powow River watershed. The tour was led by DPW Director Rob Desmarais and Town Engineer Pete Manor.

The tour began at the mouth of the Powow, and followed the Powow upstream to Tuxbury Pond, Meadowbrook Pond, and Lake Attitash. The eight stops on the tour included:

1. The Mouth of the Powow
2. The Millyard Crib Dam
3. Lake Gardner Dam
4. The Weir
5. Tuxbury Pond Dam
6. Stateline Dam
7. Archbrook Culvert
8. Birches Dam



These locations are numbered on the following map. The blue arrows represent typical water flow direction.



Map Data: MassGIS

Merrimack & Mouth of Powow

Merrimack River presents erosion problems during floods. Pleasant Valley Rd. land being private makes it hard to repair erosion on the shoreline.

Each storm brings back the shoreline a little bit more.

The town is pursuing a grant with federal highway to try to protect it. A similar problem on River Rd. in Merrimac, MA resulted in the road being abandoned. Amesbury would like to get the money they abandoned.

Amesbury has limited activity on Merrimack. Powow River is the main focus of our efforts.



The Army Core of Engineers added the existing gabions along the eastern side of the mouth of the Powow in the late 1970's or early 1980's as a solution to erosion problems.

Crib Dam in Millyard

The building over the Powow on the east side of Main St. came down in the 1990's, leaving the open area with the steam pipe.

The Crib Dam was restored in 1995. The area was rebuilt in 1985 and again in 2003 or 2004.

The Upper Millyard is the site of many former penstocks. A large pipe went under Amesbury Industrial and another penstock ran under mill where Ovedia is. The tunnels left voids under the road. In the past, a sink hole formed in the Amesbury Industrial parking lot because of caverns where penstock used to come into the mill.



The wall near the upper bridge and near the amphitheater both failed in 2006 and were replaced in 2011 with funding by FEMA. Granite blocks were salvaged from Gloucester.

Other river walls are made of various materials but are at risk for failures due to trees and also high water.

If one of the buildings the river flows under were to collapse, it could block the river. Not much is holding up those buildings.



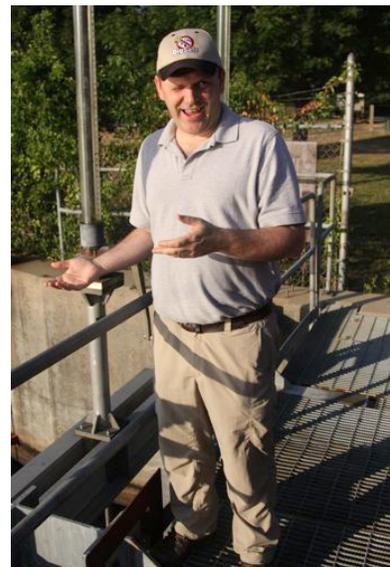
Lake Gardner Dam

The dam is downstream of a 52-square-mile watershed.

The dam was constructed in 1860 and rebuilt in 1920's. It was rebuilt again in 1987 when two former powerhouse buildings were starting to coming down. In 1993, the powerhouse buildings were taken down and replaced with a retaining wall.

In 1999 or 2000, the lake was drawn down for 4 years for the project to build the stability berm. The current dam is reinforced concrete. The granite blocks are a facade. A "skilling pool?" below the dam is 2 ft. deep and its purpose is to act like buffer, slowing the water to prevent scour on the concrete structure. The structure of the dam is built on 8 anchors that go 65 ft to bedrock.

Historically, stop-locks required taking out boards manually so it



could not be done in winter or once a flood starts. Stop-locks have been replaced with mechanical sluice gates.

The emergency spill-way had release bolts but have since been disabled.

Even when opened a small amount, water shoots out very quickly and very powerfully from the gate.

To manage storms, water can be held in Lake Gardner (which floods Battis Farm) to prevent damage to the Millyard and Downtown.

The lake is sometimes lowered to prepare for incoming storms. Sluice gates allow DPW to wait until storm hits to adjust gates. The lake itself is not even close to large enough to attenuate storms. Lake can fill to end of row of trees before flooding over.

The inundation map for dam failure is most of downtown, from train station to town park. (This is the evacuation area if dam was in danger of failure.) Elevation changes from 86 ft at dam to 10 ft at DPW garage in Lower Millyard.

Any sand that builds up on the dam is released when the gates open. (Channel is 16 ft deep and concrete is angled up.) Weeds in front of dam are not considered problem because a concrete apron tapers down.

The town has a sewer easement from Whitehall Rd to town owned berm. DPW added one load of sand to beach this year.



The Weir on the Powow

A weir is a barrier across a river designed to alter the flow characteristics. With the low river-level, the weir is visible for the tour.

The weir is a 140 ft wall that keeps the river at the correct height for pumping. It is part metal and a timber section extends beyond the main part of the river.

It was originally constructed in 1952 to raise water level for town wells. In 1960's, the town went to surface water intake. The weir keeps water level at a minimum height for the treatment plant.



create a concrete structure.

The current weir was constructed in 1976 as an emergency project. It was re-constructed 14" higher which caused flooding for local residents leading to a long costly lawsuit which the town settled.

The sheet metal on the dry side is starting to deteriorate. Timber also rots. In 2003, rocks were added downstream of the weir for stability; to keep it from falling over. The proposed plan is to build another weir in front of it and fill the void with concrete to

It is still the subject of lawsuits that are unresolved. The weir could be moved, but wetlands would be altered which is difficult legally and puts the town in legal jeopardy.

The weir is low risk, but critical for water supply. Sheet piling could be stockpiled and replaced in an emergency.

Tuxbury Pond Dam

Tuxbury Pond Dam, built in 2002, holds back Tuxbury Pond at 100 ft.

The Channel is 10 ft deep. Gates and stop-lock bays can be opened for flood control.

Output from Tuxbury is 95% of the town water supply. Water from Lake Attitash makes up about 5%.

The water below the dam is visibly heavy in iron and manganese. A visible sheen on the water is algae and often mistaken for an oil sheen.



Stateline Dam

Stateline Dam is a dam between Meadowbrook Pond and Tuxbury Pond.

Archbrook Culvert

The main outlet of Lake Attitash and Meadowbrook, Archbrook is a culvert that allows water from Meadowbrook to flow directly into the Powow under Kimball Rd. Water could flow through Tuxbury Pond but that's higher.

The 5' x 2' culvert is 120 ft in length and made of granite lintel beams on field stones.

It was created in 1750 to drain an area for hay harvesting and worked on at various times and in the 1980's.

The capital plan has a cost for replacement.

The existing culvert looks like a metal grate over a hole in the ground with wooden stop-locks which can be adjusted to control the level of Meadowbrook Pond.



There are 6 square miles of watershed from this point up.

Lake Attitash Birches Dam

Birches Dam is the outlet of Lake Attitash. Normal pool is 96.7 ft.

The structure was created in late 1970's and hasn't changed. The water line over the bridge was replaced in 1996.

This dam is also a bridge, so if the dam was to flood, there is no other way out for the Birchmeadow Rd. neighborhood.

To the right is a public boat launch. To the left is Amesbury's public access beach as required to qualify for grant money.





City of Amesbury
Lakes and Waterways Commission
Meeting of August 23, 2012
Amesbury Health Center Cafeteria

MEETING MINUTES:

Commission members present: Bruce Georgian, Alex Pooler, Ken Aspeslagh, Jay Knapp
The meeting began at 6:35 PM.

- A. **Previous Meeting Minutes:** The meeting minutes from June 21st 2012 were approved and the July watershed tour was discussed.
- B. **Engineers Report:**
 - 1. Not present
- C. **Lake Gardner:**
 - 1. Bruce reports that the Millfoil weevils we were investigating only eat the one of the kinds of Millfoil that we have. It eats the Variable but not European variety. Bruce is concerned it would just make the European Millfoil worse.
 - 2. Bruce: Lake seems to be better this year; Still a lot of weeds but noticed more native species.
- D. **Powow River:**
 - 1. Tuxbury Campground: Approved E. coli testing for dam area isn't going to get organized by this year. Will try and do it next summer.
 - 2. Alex asks: does the Powow River Watershed Association exist? Unclear, but probably doesn't.
- E. **Goals Discussion:**
 - 1. See attached spreadsheet.
- F. **Clarks Pond:**
 - 1. Jay: Dam clearing to happen soon.
 - 2. Ken asks about silt/color of Back River during rain storms. Should we investigate the source? Possible run-off from gravel put in Salisbury.
 - 3. Someone complained to Bruce that the pond was green. Jay says he thinks it's lily pads.
- G. **Tuxbury Pond:** No update
- H. **Meadowbrook Pond:** No update
- I. **Lake Attitash:** Cindy Roberts sent a written update.
 - 1. Fluridone treatment was successful. No Millfoil has been found.
 - 2. Ramp program has begin but is not catching on.
 - 3. Vegetative management plan underway.
 - 4. Native plants are thriving in the absence of Millfoil.
- J. **Park Pond:** No status
- K. **Pattens Pond:** Talked about duckweed.

The meeting adjourned around 7:45.

The next meeting is September.



**City of Amesbury
Lakes and Waterways Commission
Meeting of Sept 20, 2012
Amesbury Health Center Cafeteria**

MEETING MINUTES:

Commission members present: Chairman Bruce Georgian, Alex Pooler, Jay Knapp
Secretary: Ken Aspeslagh

The meeting began at 6:35 PM.

1. Previous Meeting Minutes:

The meeting minutes from August 23rd, 2012 were approved unanimously.

2. Engineers Report:

Engineer is not present.

3. Lake Gardner:

- a. Drawdown begins November 1st
- b. Beach didn't get closed this season. Bruce: Water is clearest it's ever been. Bruce thinks it's because the dam didn't stop flowing for more than a few days. Probably is because NH got lots of rain.

4. Goals Discussion:

- a. *Assessment Document:*
 - i. Alex: Powow River Watershed Association provided data for 2001 Merrimac assessment but can't find a name for contact.
 - ii. Action: **Ken to create and send out start to assessment document with format to fill in.**
- b. *Being involved in Lower Millyard:*
 - i. Alex: For Mill yard canoe launch, there are water quality standards we should investigate.
 - ii. Alex emailed mayor about Lower Millyard project– going to contact Joe Fahey instead.
- c. *Powow Cleanup:*
 - i. Shawsheen cleanup group exists- Contact Shawsheen River Watershed Association and ask for tips?
 - ii. Jay: Moon tides makes the tide lower up to 2 feet more. Discussion of whether low tide is the best time to do a cleanup.

5. Clarks Pond:

- a. Starting to look really bad. Could we get a grant to help it?
- b. Dam hasn't been cleared yet as was planned. Not sure why.
- c. Discussed sewer treatment backup issues in the Elm St. area.

6. Powow River: No update

7. Tuxbury Pond: No update

8. Meadowbrook Pond: No update

9. Lake Attitash: No update

10. Park Pond: No update

11. Pattens Pond: Talked about existence of duckweed on the surface.

12. Merrimac River: Jay seeing a little dark clam in the river. Not sure what it is.

13. Meeting location: Discusses whether we can we meet in the new transportation center building.

The meeting adjourned around 7:30.

The next meeting is October 18th.



**City of Amesbury
Lakes and Waterways Commission
Meeting of Oct 25, 2012
Amesbury Health Center Cafeteria**

MEETING MINUTES:

Commission members present: Chairman Bruce Georgian, Alex Pooler, Eric Bezanson
Secretary: Ken Aspeslagh

The meeting began at 6:35 PM.

1. **Eric Bezanson resigns.** Commission accepts resignation and thanks him for his service on the commission.
2. **Previous Meeting Minutes:**
The meeting minutes from Sept 20th, 2012 were approved unanimously.
3. **Engineers Report:**
Engineer is not present.
4. **Lake Gardner:**
 - a. Drawdown has begun.
 - b. Bruce going to ask Rob about the scope of drawdown and ask Peter about weed control.
5. **Goals Discussion:**
 - a. *Assessment Document:*
 - i. Ken shows first draft of assessment document. Needs to finish it and will sent to the group.
 - ii. Eric called number about coalescing existing data. Didn't exist. Alex is going to do more research.
 - b. *Being involved in Lower Millyard:*
 - i. Alex tried to contact Fahey but will try again.
 - c. *Powow Cleanup:*
 - i. Talked about getting Eagle scouts to help. Bruce says to talk to Ron Fuller.
6. **Clarks Pond:** No update
7. **Powow River:** No update
8. **Tuxbury Pond:** No update
9. **Meadowbrook Pond:** No update
10. **Lake Attitash:** No update
11. **Park Pond:** No update
12. **Pattens Pond:** No update
13. **Merrimac River:** No update

The meeting adjourned around 7:50.

The next meeting is Nov 15th 2012.



City of Amesbury
Lakes and Waterways Commission
Meeting of Nov 15, 2012
Amesbury Health Center Cafeteria

MEETING MINUTES:

Commission members present: Chairman Bruce Georgian, Alex Pooler

Secretary: Ken Aspeslagh

City Engineer: Peter Manor

Guest: Laura Pooler

The meeting began at 6:40 PM.

1. Previous Meeting Minutes:

The meeting minutes from Nov 15th, 2012 were approved unanimously.

2. Laura Pooler is considering joining. Talked about finding new members.
3. Talked about water quality compared to previous years. Bruce sees milfoil than usual on Lake Gardner. Pete considers results of herbicide treatment on Lake Attitash still inconclusive.

4. Engineers Report:

a. Drawdown:

- i. Lake Attitash at 96 ft. It is half way to full drawdown.
- ii. Powow River is at normal pool because upstream is drawing down which is good for the water supply.
- iii. Lake Gardner is coming down. Will only come down 2 ft. down from normal pool. South Hampton people will complain if Powow River comes down too far before Thanksgiving.
- iv. Millyard at normal level.

b. Drainage projects:

- i. Clarks Rd. fixed. River St. being fixed now. Whitehall Rd. next year. Some drainage on Whitehall was cleared.
- c. Bruce asked Pete about the pipe near Glen Devin. Pete thinks it probably a sump pump outlet.
- d. Bruce asks about campground water sampling. Pete says campground is tied up with lawsuit between South Hampton and campground. Sampling is already done for intake of treatment plant so he'll see if we have those numbers.
- e. RDA to clean up debris on Clark's Pond would require abutter notices so didn't do it.
- f. Stressed need for maintenance plan so DPW can do minor projects like tree removal and cleaning up the river without filing cumbersome RDAs.

5. Goals Discussion:

a. Assessment Document:

- i. Ken created a document to start the process. Group will add to it as assigned. **ACTION: Pete will send Ken more information about the structures.**

b. Pulling together existing waterways data:

- i. Still a worthwhile goal.

c. Being involved in Lower Millyard:

- i. Alex contacted Joe Fahey about being involved. Joe is waiting for grant money before getting started on the project.
- ii. Alex asks about water quality of lower Powow. Do we have any documents? Pete says no. Soil is currently being studied but what about water?

- d. *Powow Cleanup:*
 - i. Pete says that a group recently helped cleanout the culvert around Park Pond. Had to get permit from DEP. Should find out who it was. Con-com would not allow them to remove the wood and brush.
 - ii. Pete suggests mapping where Alex saw trash so we can have a target area for any cleanup effort.
- 6. **Lake Gardner:**
 - a. See engineers report.
- 7. **Grant Status:** No Grants
- 8. **Clarks Pond:** No update
- 9. **Powow River:** No update
- 10. **Tuxbury Pond:** No update
- 11. **Meadowbrook Pond:** No update
- 12. **Lake Attitash:** No update
- 13. **Park Pond:** No update
- 14. **Pattens Pond:** No update
- 15. **Merrimac River:** No update

The meeting adjourned around 7:55.
The next meeting is December 20th.



**City of Amesbury
Lakes and Waterways Commission
Meeting of Dec 20th, 2012
Amesbury Health Center Cafeteria**

MEETING MINUTES:

Commission members present: Chairman Bruce Georgian, Alex Pooler (acting secretary), Jay Knapp

City Engineer: Peter Manor

Guest: Laura Pooler

The meeting began at 6:40 PM.

1. Previous Meeting Minutes:

- a. Meeting Minutes from November 2012 approved unanimously.

2. Engineers Report:

- a. Pete Manor reported that Lake Gardner and Tuxbury both at spill elevation. Had both down about 6 inch before recent rains. Some concern about freeze before lake elevation could be drawn down again. Upcoming forecast indicated at least 10 days of continued mild weather. Project to clean up Clarks Pond update, RMA cost about \$3000, project pulled due to cost. Working on fix for pipe on Whitehall and drain on new parking lot on 101.

3. Lake Gardner:

- a. Water elevation up due to recent rain. Bruce reporting ice in upper reaches of lake. Drawdown to continue and hope to complete before freeze.

4. Goals Discussion:

- a. New Members:
 - i. Laura Pooler is being fast tracked. Meeting set up with Mayor to discuss appointment. Currently working on Patten Pond
- b. Assessment Document:
 - i. Alexander and Laura Pooler will focus on Park Pond, Merrimac River, and Lake Attitash.
 - ii. Completed assessments still being sent in.
- c. Powow Cleanup:
 - i. Alexander to map out debris along the Powow River. Will contact Pete to get aerial photos to aid in mapping.
 - ii. Agreed that low tide is the best time to assess the debris. In trying to determine the tides for the lower Powow River, Jay suggests to add one hour to tide reports from Boston Harbor.

5. Clarks Pond: Update from Pete Manor on clean up, not going forward at this time

6. Powow River: Most vegetation has died off, now able to see debris both along the shoreline and in the mud flats at low tide.

7. Tuxbury Pond: No update

8. Meadowbrook Pond: No update

9. Lake Attitash: No way to really assess if the program to control invasive weed over the summer was successful.

10. Park Pond: No update

11. Pattens Pond: No update

12. Merrimac River: No update

The meeting adjourned around 7:35.