THE HALFMOON LAKE ASSOCIATION
SECRETARY'S REPORT
August 25, 2013

The second annual meeting of 2013 for the Halfmoon Lake Association was called to order at 10:00 am with 18 members present. The meeting was held at Camp Mi-Te-Na; President Bill Mannion presided.

President Mannion introduced our guest speaker, Sara Steiner, from the Department of Environmental Services. Sara spoke about the VLAP – Volunteer Lake Association Program – with approximately 175 lakes currently participating. She explained that the group collects water quality samples during the summer to identify problems with quality and to establish long-term trends.

Sara explained that there are three indicators of lake health: Chlorophyll-a, Transparency and Total Phosphorus. Chlorophyll-a provides a general indication of algae or cyanobacteria abundance; high chlorophyll-a concentrations can indicate algae blooms caused by too many nutrients. Since 1989, the water quality trends for Halfmoon Lake reflect an average of 2.56 – 6.69 for chlorophyll-a, with an average of 4.02, which depicts that the trend is getting better; it's higher than the regional, but less than the NH median.

Sara explained that cyanobacteria is always present in normal calm conditions, it likes sunlight, warm water and nutrients. When it blooms, millions of cells float to the surface, moving up and down the water in columns – moving up toward the sun during the day and down toward the soil for nutrients at night.

Sara then spoke about the second indicator of lake health being transparency, which is a measurement of water clarity. Factors affecting transparency are water color and turbidity, sediments, fine particulate matter and algae. Since 1989, the transparency value for Halfmoon Lake ranged between 2.50 – 4.87, with an average of 3.87. She noted that in 2006 and 2009 the transparency value was down due to the fact that they were rainy years, which resulted in sediment and algae growth. However, it has remained stable over time.

The third indicator of lake health is total phosphorus, which are nutrients that promote plant and algae growth. It is influenced by surface runoff, deposition, waterfowl in the epilimnetic (upper water layer) and sediment layer and depleted, dissolved oxygen in the hypolimnetic (lower water layer). A murky bottom equals more phosphorus presence. Again, since 1989, the total phosphorus measurements for Halfmoon Lake has ranged from 7 to 13, with an average of 9.5, reflecting a significantly decreasing (improving) trend, below the regional median.

Sara spoke about the relationships between nutrients, algae and clarity: Where there are increases in nutrients, there will be increases in algae, decreases in lake clarity and decreases in property values! She projected another water quality trend chart depicting chlorophyll-a and phosphorus, once again noting that in 2006 and 2009 there was an increase, resulting in a decrease in transparency. Phosphorus levels for 2013 water tests samples have reflected a decrease in level thus far.

Sara then shared the results of the VLAP Lake Report for Halfmoon Lake, noting that orange highlights reflect impaired aquatic life, with the underlying question, "can people swim?" She explained that because the entire state of NH is on bedrock, the ph level is low state-wide, and should be no cause for concern. The oxygen level has been getting better over time; colder water holds more oxygen. Sara noted that in 1978, Halfmoon was identified as oligotrophic, which is the best class of water body; in 1992 the status was changed to mesotrophic, which is the next step below, due to the aquatic plants and lower oxygen levels. In 1978, the phosphorus level was identified less than/equal to 8 and chlorophyll-a at less than 3.3. Since that time, the total phosphorus level has increased to a level of less than/equal to 12 and the chlorophyll-a has increased to a level of less than/equal to 5.

The Halfmoon Lake Watershed map was displayed showing that much of the watershed area is forest based, which is considered very favorable.

What can we do? We can develop a Watershed Management Plan by identifying sources of pollutants, estimate pollution loads, recommend strategies to reduce loading. We can then use the plan to apply for EPA Section 319 grant funds.

Education and Outreach: Educate lakefront property owners and watershed residents about land use activities that could negatively impact the water; and educate lakefront property owners about what they CAN do. New stormwater

management guide for homeowners: http:/des.nh.gov/organization/divisions/water/stormwater/stormwater-mgmt-homeowners.htm

What we DON'T want to see: use of fertilizers, manure, soil or a reduction of impervious surfaces (allows water to run off more). Use Scott's phosphate-free fertilizer: within 25 feet from shore, there is no fertilizer permitted; 25-50 ft should use phosphate free, or low phosphorus, and use slow release nitrogen fertilizer only. Note that organic doesn't mean phosphate free! Keep native vegetation to filter nutrients, rain barrels to collect roof runoff, rain gardens to collect roof and driveway runoff.

How can these problems be prevented? Properly maintain private beaches; permits are required to replenish beach sand if more frequent than every six (6) years; no more than 10 cubic yards of sand; construct a perched beach (permit required). Property owners should properly maintain septic systems; pump every 1-2 years or more frequently depending on system; replace antiquated and/or malfunctioning systems. Good planning is also a means to prevent these problems by working with the surrounding towns to assess watershed development; low impact development by implementing LID practices where possible in the watershed; and best management practices by implementing stormwater BMPs in the watershed.

A question was posed as to whether inspection of septic systems was regulated by the state or locally; Sara responded that it was the responsibility of town inspectors based on local regulations.

Sara spoke about the ground water for lakes, indicating that spring fed was more pure than surface water. Alma Herndon said that when she and her husband first moved in the area, Mr. Porter had shared with them that there were 100 springs feeding this lake.

A member asked about the mercury level in the water and if there was an impact on quality, noting that there seemed to be a declining population of larger fish. Sara noted that it is the larger fish we need to be concerned about, and agreed to verify if a sampling had been taken from the lake.

Mike Fedorchak asked about the future vision for the lake. Sara responded that changes are gradual and small over time, but that we're headed in the right direction. She suggested that we continue doing what we're doing with water quality testing, be mindful of the dirt road runoff, and consider the buffers discussed during the presentation.

Bill Mannion noted that there has been a decline of phosphorus levels and suggested that we continue to educate our members and lakefront owners regarding the use of less fertilizer, planting more trees/shrubs and stormwater management. Each of those items make a difference.

David Roe asked what individual property owners can do to make a difference. Sara replied that where there is a steep pitched roof, a trench could be dug to capture the runoff, build a rain garden via a depression, and have stairs/pathways which allow rainwater to infiltrate. These and other suggestions are outlined in the Homeowners Guide to Stormwater Management (see website link above).

Linda Bramante asked if DES supplies water barrels; Sara indicated that the NH Lakes Association may be able to recommend a supplier.

Bill Mannion asked if his understanding of fecal bacteria (e-coli) and cyanobacteria is correct that the more sunlight we have, the more fecal dies off, with a 24-hour die-off rate. When DES conducts a water test, the results can change drastically in 24 hours, and in as little as 6-7 hours. The intensity of a rain event can bring on a fecal event. Cyanobacteria is natural until it reaches a certain level or blooms, at which time it becomes dangerous. We need to be visually inspecting the area for drawing water and usage purposes. Sara confirmed that Bill's understanding is accurate and added that if blooms are visible, we're not to use the water; boiling water causes cells to die and releases toxins.

Members Kate Brown and Steve/Alma Adams asked if cyanobacteria has to be visible to be hazardous or potentially toxic. Sara responded that cyanobacteria doesn't always produce blooms or appears to be scum forming, that we should take precautions. Ann Bohley asked if she should be concerned when her dog drinks the water; Sara stated that she should be concerned only when seeing bad scum conditions.

Deb Fedorchak felt that we shouldn't be drinking untreated lake water until conditions are cleared. She and Linda had travelled the lake the previous day and noted that conditions were similar to turquois scum in many areas, She believed that they exceeded the cells per mill threshold because they saw hundreds of specks in the water column.

Linda asked if there are regulations on rest rooms for public beaches. Sara was not familiar, but suggested contacting Sonya at DES, because private beaches are run by associations.

Bill thanked Sara for taking the time to share lake quality information with our members and educate lakefront property owners.

The business portion of the meeting commenced at 11:20 am. Noting there were no new owners present, President Mannion then asked for a motion to accept the Secretary's Report as prepared by Nina Kelly. Mike Akstin so motioned, and was seconded by John Wheeler. All attendees were in favor; none opposed.

President Mannion then requested a motion to accept the Treasurer's Report as presented by Linda Bramante. It was noted that some local associations and members have yet to have turned in their dues so as to be represented on the report. The motion was raised by Pat Mannion and seconded by Steve Adams. All attendees were in favor; none opposed.

OLD BUSINESS

Vice President Roger Hatch advised that Linda Bramante and Debbie Fedorchak cruised the lake the prior day and found no weeds. He stated that Amy Smagula, from DES, had been invited that morning to discuss the Weed Watchers Program, and we learned that we have more than milfoil in our lake. She requested us to inspect monthly and handed out Weed Watchers Kits to present members; the kits are color coded with maps of perimeter to depict various species. She had recommended that the lake be split up and assigned to various volunteers to make it more manageable, but Roger felt that decision should be left to the volunteers. The kits list equipment needs and explain techniques. Amy stated that although there are 29 invasive plants, variable milfoil is by far the biggest threat. The "hot zone" is considered to be 3 – 10' depth levels, and there are 14 possibilities in our lake.

Mike Fedorchak advised that the July water testing was on par with the water testing from June; clarity was down in July, but back up in August. The water report may be accessed on the website: halfmoonlakenh.com. Bill thanked all water quality volunteers: Larry, Dugie, Linda, Mike, Frank and Deb.

Deb Fedorchak indicated that there was no visible trace of milfoil in the cove or anywhere near the lake perimeter. She recalled Amy stating that it was extraordinary not to find any trace of milfoil.

John Wheeler discussed the boat activity which he had tracked this year: 31 boats since the last meeting, with an average of 5 per week, from the Rte 28 launch – not the North Barnstead Rd launch. Some trucks have dump stickers, so he was able to glean that they were from Newington or Nottingham. He felt that the boat traffic this year was about the same as previous years.

Secretary Nina Kelly thanked those lake representatives who were present for the updated member addresses and email address. She noted that those members who have provided email addresses tend to receive important notices (such as fecal bacteria or cyanobacteria warning) more timely than those who have not provided email addresses. She urges members to share email addresses so as to receive these timely notifications as well as assist in reducing mailing fees. Nina will contact those lake representatives who were not at the meeting to secure updated address lists for members, as well as to return the updated maps which Bill handed out from the July meeting. To date we have received the following: Rustic Shores, Crescent Drive and South Shore Drive (Halfmoon Bay noted as forthcoming).

Following are the names of the Lake Reps:

• Rustic Shores	Bill and Pat Mannion
• South Shore Drive	Dan Wildes
• Crescent Drive	Ann Bohley
• Newcastle Extension	David Parish
• O'Neill Drive	David Briggs
• Fire Road 1 – The Point	John Wheeler
• Rte 28 Alton line to Varney Rd	Vicki Pelletier
• Varney Shores	Steve Miller
• Fernhill	Jay Piwnicki
• Halfmoon Bay	Kate Brown

NEW BUSINESS

Mike Fedorchak spoke about the recent thefts on the lake noting that there had been three reports in just a few weeks: one on the other side of the Boys Camp, broken into a shed, accessed from the road. The other two were accessed from the lake. Ann Bohley noted that Crescent Drive has lights for the road, which helps to deter some of the theft events. Kate Brown stated that there have been parties at the public beach (Dalton) until 2 or even 4:30 in the morning, where teenagers are up until late hours. Bill indicated that the officers are attempting to schedule a meeting with representatives from Locke Lake Colony so as to open a channel of communication about this and other shared issues.

Deb Fedorchak shared with the group that there had apparently been a change made to state law in July 2012 which allows for the number of people to be pulled in towables to be increased from 2 to "no more than 6." The updated regulations also state that "when 3 or more are towed, two (2) or more observers in addition to the boat driver will be on the vessel."

Cliff Brown asked about the status of the Association with the ramp, noting that it appears that loam had been put down. Roger stated that there had been no change in status.

Bill thanked Matt and Tom for once again allowing the Association members to convene on their property. Matt spoke about their 100th year celebration where over 700 campers from around the world joined them during the summer months. He thanked the members/Association for supporting their campers, and noted that while some miss the bugle, others may not have missed it so much!

Roger announced that the annual boat parade was scheduled for Saturday, August 31 at 8:00 pm outside the Boys Camp.

Bill announced that the next meeting is scheduled for July 12, 2014.

Motion to adjourn was raised by Mike Fedorchak and seconded by Steve Adams. Meeting adjourned at 11:50 am.

Respectfully Submitted,

Nina P Kelly

WON'T YOU HELP?

By providing us with your email address:

- We save time and money (i.e., printing, postage)
- You're provided with emergency notices (i.e., water conditions, etc) during the year that are only provided to members w/email addresses

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To: Mrs. Linda Bramante, Treasurer, 19 Paulina St., Somerville MA 02144-1812

Halfmoon Lake Association dues for 2012 from:

Name: _____

Address: _____

City/Town:_____State:_____Zip Code: _____

E-Mail Address: _____

*Make checks payable to the "Halfmoon Lake Association"
Please include your e-mail address to help defray the cost of postage for meeting notices – thank you!