

2015-2016

Lake Auburn Annual Watershed Protection Report



Lake Auburn Watershed
Protection Commission

City of Lewiston Water Division

Auburn Water District



Lake Auburn Annual Watershed Protection Report
2015-2016



Lake Auburn Watershed Protection Commission

Annual Watershed Report October 1, 2015-September 30, 2016

Submitted to the Maine Drinking Water Program

Commissioners:

Joseph Grube, Chairman	Stephen French, Commissioner	Richard Thibodeau, Commissioner
John Bonneau, Commissioner	David Jones, Commissioner	Robert Thompson, Commissioner
Michael LaChance, Commissioner	Bethel Shields, Commissioner	Tizz Crowley, Commissioner

Water Quality Management Team:

Sid Hazelton, P.E., Superintendent, LAWPC Clerk	Mary Jane Dillingham, Water Quality Manager
Kevin Gagne, P.E., Superintendent, LAWPC Clerk	Christopher Curtis, Water Treatment Manager
	Lynne Richard, Education & Outreach Manager

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SECTION A - REGULATORY CONTROL

Commissioners and Commission Meetings

During the reporting period five public meetings of the Lake Auburn Watershed Protection took place on the following dates: (*see Appendix for Meeting Minutes*).

November 5, 2015

April 14, 2016

September 14, 2016

February 10, 2016

June 8, 2016

Highlights of business conducted by the Commissioners included:

- Adopted the FY 2016 Lake Auburn Watershed Commission Budget (Appendix 1).
 - Reviewed and approved quarterly financial reports.
 - Approved University of Maine/Orono Core Sampling Project.
 - Hosted a public meeting for University of Maine scientist Steve Norton to describe the science of Lake Auburn sediments and phosphorus release into the water.
 - Accepted the Watershed Land Management Plan.
 - Monitored Route 4 reconstruction planning meetings.
 - Authorized motorized wheelchair access to LAWPC lands.
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REGULATORY, ENFORCEMENT and ACQUISITION ACTIVITY

- LAWPC received grant funding from Homeland Security to install surveillance cameras around the lake. One camera will be installed at the boat launch and this camera will offer 360° views. Another camera will be installed at the Route 4 turnout, and a third will be placed at the treatment plant.
 - Funding was appropriated in the 2016 budget for police patrol of the watershed, Lakeshore Drive, and the boat launch parking areas. Patrols occur mostly on weekends, but may be scheduled randomly throughout the week.
 - The Basin continues to be closed to motorboats due to the extensive variable leaf watermilfoil population and related management activities.
 - The northern end of Lake Auburn is closed to motorboats due to the infestation of variable leaf watermilfoil. The area is buoyed to warn boaters of the closed section.
 - The LAWPC maintains buoy placement in Lake Auburn to designate the 'No Trespassing' zone along with signage indicating rules for the No Bodily Contact zone.
 - More than seventy (70) gallons of diesel fuel was spilled onto RT. 4 as a result of a traffic accident. The spill was contained by the curbing on RT. 4 and no fuel made it off the highway. Auburn Public Works was quick to take the appropriate actions to properly clean up the spill.
 - During the summer of 2016, staff participated in a State Emergency Preparedness Exercise to train for response to failure of the East Auburn Dam.
 - Also during summer of 2016 staff revisited roles, protocols, and procedures for implementation of algaecide treatment in the lake, should it be necessary in the near future.
 - Lake Auburn was tapped for additional water needed to fight a large fire which consumed an automotive repair business located in nearby Turner, Maine. Firefighters established a pump system to withdraw water needed to replenish the tanker trucks.
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Phosphorus Control Plan Reviews

One Phosphorus control plan review was conducted in 2016 for a sand/salt storage structure.

Under City of Auburn Ordinances, staff of the Lake Auburn Watershed Protection Commission must review, comment, and approve all Phosphorus Control Plans for development within the Lake Auburn Watershed in Auburn. Phosphorus Control Plans for 2015-2016 are on file.

Private Subsurface Wastewater Disposal Systems

Staff from the Lake Auburn Watershed Protection Commission reviews and approves new and replacement subsurface wastewater disposal systems within the Lake Auburn watershed in the City of Auburn. Field inspections are made by the Commission staff, sometimes with the assistance of the contracted services of a State of Maine licensed soil evaluator, to verify that the application for subsurface wastewater disposal (HHE 200 Form) meets with the requirements of the Lake Auburn Watershed Overlay Zone Ordinance.

During the report period, two replacement system HHE200 forms were reviewed, one for 1018 Summer Street and another for 664 West Auburn Road.

Watershed Land Acquisition

To assure protection of Lake Auburn by securing ownership of the shoreline, the LAWPC seeks to acquire priority properties when lands that will contribute to protection of Lake Auburn's water quality become available. During the reporting year no new acquisitions were finalized.

In total, the total acreage conserved by LAWPC equals approximately 2200 acres, or about 22.5%, of the 9792 acre watershed. LAWPC owns or has easements on approximately 83% of Lake Auburn's shoreline.

In July 2016, LAWPC and Androscoggin Land Trust executed a Memorandum of Understanding for the Pope property, fulfilling the terms of sale for the property. LAWPC holds fee ownership of the property and the ALT will hold the conservation easement.



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SECTION B – LAKE AND WATERSHED ACTIVITIES 2015

Monitoring:

- Monitored lake levels throughout ice-out conditions at the East Auburn Dam and the North Auburn Dam and inflow to the Lake. The Ice-In date was January 19, 2016 and the Ice-Out date was recorded as March 18, 2016.
- The Commission agreed to enter a service agreement with Solitude Lake Management. The contract secures our response with the company and no costs will be incurred unless we request them to mobilize for an actual algaecide application. Fees are not to exceed amount of \$50,000, and funding will come from the sinking fund.
- Data for the Bates College data buoy which is located over the deep hole in is available on the website for the public to see at <https://wqdatalive.com/public/146>
- A University of Maine student, Heather Doolittle, prepared a report titled “The problem with Lake Auburn – What is it, what is the origin and is there a solution.” The report focused on the relationship between the lake sediments and the release of phosphorous into the water. Recommendations from the study were presented to the Commission and on February 10, 2016 the Commission voted 7-0 in favor of funding the collection of sediment samples from the deep hole for analysis. The core samples were taken during the summer of 2016, but results are not yet available.
- Water Quality Technicians monitor the Lake raw water and tributaries leading to the lake for various water quality parameters including:



Dissolved Oxygen	Dissolved Organic	Conductivity
Temperature	Carbon	Total Dissolved Solids
Secchi disk (clarity)	Nitrate/Nitrite	Total coliform bacteria
pH	Alkalinity	Fecal coliform bacteria
Total Phosphorus	Ortho Phosphate	E. coli bacteria
Turbidity	Chlorophyll a	Enterococci bacteria
Color	Algae	Giardia
Total Organic Carbon	Ammonia Nitrogen	Cryptosporidium



- Local high school students are participating in the Stormwater Management Research Team (SMART) and have been sampling water at the Townsend Brook inlet to the Lake. The program is funded by University of Maine.
- Giardia and Cryptosporidium protozoan are tested at the intake quarterly. None were identified.
- Two replacement septic systems occurred at: 1018 Summer St. (parcel ID#277-037) and 664 West Auburn Rd. (parcel ID#341-058).
- Supported research activities with Gleotrichia monitoring with Bates College and sediment contributions of phosphorous with the University of Maine.

Lake Algae

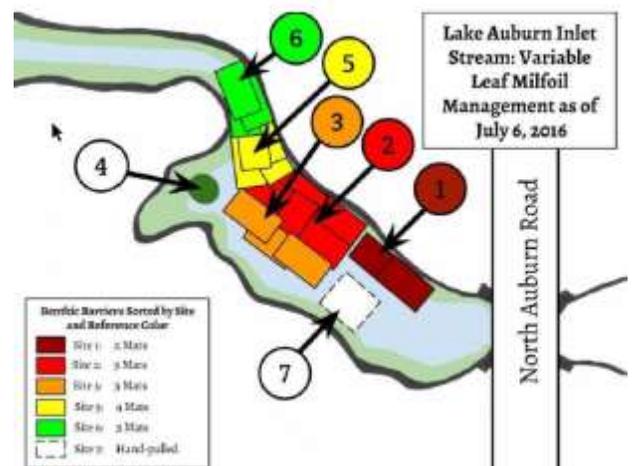
Samples for zooplankton and phytoplankton are collected weekly at the Deep Hole and/or the intake. Population densities are quantified. Algae populations within the lake have not been at nuisance levels.

The Lake Auburn algaecide application permit is in force for the fourth of five years.

Invasive Plants Management

Lake Auburn has a well-established infestation of variable-leaf water milfoil in the north end of the lake and a very dense and widespread population of variable-leaf water milfoil in the Basin. The Milfoil Management Program for Lake Auburn and the Basin, continued in 2016, includes:

- 17 benthic barriers were placed over dense populations of variable-leaf water milfoil in the Basin and one site was hand-pulled. We will continue to manage these areas.
- Invasive plant patrols occurred on the entire shoreline of the lake and throughout the Basin, and The Milfoil Management Program continued through 2015-16.
- LAWPC received new invasive plant signage from the DEP which will be installed spring of 2017
- LAWPC obtained a \$2000 grant again in 2015, and conducted 351 boat inspections at the public launch off Route 4. Trained inspectors check boats entering and leaving Lake Auburn for invasive plants and offer information to boaters on how to prevent the spread of invasive species.





Wildlife Management

- The Annual Loon Count was conducted on July 16, 2016. On or around this day between 7 and 7:30 AM, lakes all over Maine are surveyed for loons. The LAWPC has participated in this important effort since 1983. In 2016, 11 adult loons and 0 chicks were observed.
- The gulls and geese harassment program is ongoing and continues to be effective. In fact, costs for the program are diminishing as the biologist tailors the efforts to be specific for Lake Auburn. (report included in Appendices)
- Maine Inland Fish and Wildlife continued to stock Lake Auburn for sport fishing. Additionally several classrooms release brook trout fry into the basin brook during the month of May.
- Staff and Maine Warden Service staff worked to refine and communicate new hunting policies for LAWPC-held lands. (See appendix)



Lands Management

- LAWPC continued its contract with the Androscoggin Land Trust to monitor conservation easements on seven LAWPC parcels. The MOU was approved in 2016 and extends the contract from July 1, 2016 through June 30, 2019 (see attached).
- LAWPC signed an MOU with ALT agreeing to fund up to \$5,000 in fees incurred by ALT to establish a conservation easement on the Pope property located on Summer St. in Auburn. Fees include survey, title search and legal fees.
- Under the guidance of the National Park Service Trails Assistance Program, stakeholders, which include lake abutters, community leaders, conservationists, and professional land managers, approved the final stages of the management plan. A digital copy of the plan can be accessed from the LAWPC website.
- In addition, an inventory of LAWPC signage was completed in late 2015 for the purpose of updating and clarifying the delivery of messages and engaging public stewardship.
- Design of new signs continued throughout the year. Signs will be purchased and replaced in phases, and phase 1 signs were ordered in June of 2016 and were received in September.





Grants

National Park Service Lands and Trails Assistance

The LAWPC was awarded a continuation of National Park Service assistance for a trail and recreation management plan in 2015-2016. NPS personnel assist with development of a stakeholder group and creation and implementation of the recreation management plan, a project completed in spring of 2016.

319 Grant- Lake Auburn Watershed Improvement Project- Phase I

In May of 2015, the LAWPC was awarded a 319 Grant to remediate erosion problems in the watershed. The total projects estimate is \$264,910; comprised of the grant award of \$148,438 and matching contributions of \$116,472.

319 Technical Assistance

During this report period, four technical assistance visits were conducted; one on waterfront property along Little Wilson Pond, which empties into Lake Auburn and three on Lake Auburn itself. Currently two projects are slated to begin; one of which is a culvert project and the other consisting of a number of non-point source (NPS) best management practice installations. The NPS project is a partnership with the landowner and Gammon Landscaping. The property is a roughly 6,000 square feet of waterfront located on Little Wilson Pond.

Non Point Source Projects

Engineering and technical assistance has been provided for culvert replacements on Little Wilson Pond Road and Gurschick Road, to be partially funded by the 319 grant. The Gurschick Road culvert drains the Upper watershed and Mud Pond, emptying into Little Wilson Pond. The landowner, with assistance from LAWPC, submitted a culvert grant application to the DEP, but was not awarded the supplemental grant. However, the landowner decided to replace the failed culvert with his own funds and in partnership with LAWPC. This project was completed in September 2016.

2015R03 Lake Auburn Watershed Improvement Project- Phase 1				
	Task 1 Project Management	Task 2 Abatement Projects w/ Cost Share	Task 3 Engaging Landowners	Task 4 Education/Outreach
Tasks, Subtasks, Outcomes	progress reports- 4	7 structural bmps at priority NPS sites	Site visits- 12	2 Day WET workshop
	ongoing tracking	250' buffer		ELHS Buffer Project
		5 add'l buffer/bmp		speak at meeting
		Cost Share Agreements		newsletter
				webpage
				facebook posts
				press release
				reminder letter
Completed or In Progress				
	completed	TA visits:		
Progress report- 1	85' buffer @ LAUV	Sevit		4A- half completed
documentation	Gurschick culvert	Jozniak		4B completed
	Upcoming NPS	Conley		4C completed
	LWP Rd culvert	Mardens		
	Sevit, NPS	Gurschick		
	30' buffer planned ELHS	Bonneau		2 Day WET workshop
	Gammon	Rhoades		Pfants to EL
	Lakeshore Drive? TBD	Tabers		speaker at meeting (x2)
	Spring Rd- infill steps	Gammon		newsletter
	Spring Rd- armor channel (site 7)	Summer St		webpage
	Spring Rd- near gate fix			facebook posts
	Spring Rd- other?			press release
				reminder letter



Before and After photos- Gurschick Road Culvert Replacement



Gurschick Rd Culvert Outflow after



Public Education and Outreach

- Staff spoke about managing cyanobacteria on Lake Auburn at the Chamcook Watershed Landowners Association meeting in New Brunswick, Canada.
- Presentation of water education methods at Androscoggin River Watershed Council Annual Conference.
- Provide support and assistance for environmental training to the MS4 Stormwater group, Lewiston and Auburn. Also provide classroom instruction about stormwater in the MS4 target area.
- Participated in the Legislative Hall of Flags event with Maine Water Utilities- display and brochure about protection of drinking water sources. (appendix 5)
- Permitted and supported the Lake Auburn Half Marathon, and local Triple Crown 5k races.
- Monitored and regularly updated the LAWPC website- www.lakeauburnwater.org
- Authored regular posts to the LAWPC Facebook page.
- Published and distributed the Winter 2016 issue of the Lake Auburn Watershed Newsletter.
- Supported the Androscoggin Bass Masters Association clean-up of the shoreline areas around Lake Auburn.
- Delivered the popular FishKids Program- schools in Turner, Hebron, Auburn, Minot, Lewiston- approximately 200 students

Students raise trout in classroom tanks, then release into nearby tributaries. Most are released to the outflow of the Basin into Lake Auburn. During the study, students learn about and test for dissolved oxygen, pH, conductivity, turbidity, and temperature while also assessing macroinvertebrates and riparian conditions.

- School-based programs for watershed towns and partners- in series and as requested.
- LAWPC continued the partnership with UMaine Stormwater Student Group as local advisor to NSF grant project encouraging minority recruitment to engineering careers.



Project WET

The LAWPC is the sponsor for state-wide coordination for Project WET; and award-winning resource for effective water education. Teacher workshops were

conducted during the report period at University of New England, St. Joseph's College of Maine, UMaine Farmington; and Cobscook School Department. Seventy Six teachers were trained in Project WET water education methods.





Recreation and Public Access

- The LAWPC has instituted procedures for granting landowner permission for hunting and trapping on LAWPC parcels. Hunters review local and state rules before signing a Land User Courtesy Card, which indicates which parcels will be hunted. (appendix)
- The Perkins Ridge Snowmobile Club renewed their snowmobile trail maintenance permit for the 2016 winter season. The Club grooms Whitman Spring Road and a couple of connecting trail segments on LAWPC land. (appendix).
- The LAWPC Land Management Plan process was completed. The Plan highlights appropriate public access and uses and outlines LAWPC's stewardship goals. A digital copy is on file and the public can access a copy from the LAWPC website.



Spring Road Mile Markers



- An Auburn running club created, located, and installed post markers at quarter mile intervals on Whitman Spring Road. The posts offer space for additional small LAWPC message signage.
- Pet waste bag stations are maintained at both ends of the Whitman Spring Road public access trail. An additional station was donated to the Lake Auburn Community Center. Signage was designed by LAWPC.
- A local family donated and installed a new bridge for Merrick's Way, leading to the Spring Road trail. The bridge replaces a small rotting set of boards that probably wouldn't have lasted another year. The project occurred in partnership with the Lake Auburn Community Center.





SECTION C – WATER WITHDRAWAL RATES

For the twelve-month period ending September 30, 2016 the Auburn Water District’s average monthly withdrawal was 81.84 MGD and the Lewiston Water Division’s was 123.65 MGD for a combined monthly average of 205.49 MGD. The safe yield of Lake Auburn has been estimated to be 17 MGD/day. The average monthly withdrawal rate represents 39.6% of the estimated safe yield of Lake Auburn.

An additional 4.3 M gallons were withdrawn by water haulers, with permission obtained from the Districts. The fees to these haulers contributes to a fund that will pay for a dry hydrant for future use.

Month	No. Patrols	Average Monthly Withdrawals MGD			Elevation ***
		AWD	LWD	Total	1 st of the Month
October 2015	Daily	83.85	111.03	194.9	260.05
November 2015	Daily	77.00	111.50	188.5	260.22
December 2015	Daily	77.8	123.3	201.10	260.19
January	Daily	78.01	119.23	197.24	260.7
February	Daily	76.68	116.65	193.33	260.6
March	Daily	75.10	119.84	194.95	261.3
April	Daily	80.35	107.81	188.16	260.0
May	Daily	81.67	114.07	195.74	260.40
June	Daily	88.92	130.41	219.33	206.21
July	Daily	86.01	142.84	228.85	259.98
August	Daily	87.96	138.34	226.30	259.70
September	Daily	80.65	113.55	194.20	259.2
Avg. Monthly		81.17	120.71	201.88	
YTD Totals		974.001	1448.575	2422.58	
*** Elevation Above Sea Level					



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SECTION D – APPENDICES

- Appendix 1. FY 2016 Commission Budget
 - Appendix 2. Commission Meeting Minutes
 - Appendix 3. Gull Management Report
 - Appendix 4. Education and Outreach Activities
 - Appendix 5. Hunting/Trapping & Snowmobile Permitting
 - Appendix 6. Media, Articles, Other
 - Appendix 7. Watershed Map
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Appendix 1

	2012 Actual	2013 Actual	2014 Actual	2015 Budget	Estimated 2015 Actual	2016 Budget
Expenditures:						
Auburn Water District	12,779.12	17,718.58	9,852.88	13,000.00	5,776.25	13,000.00
Lewiston Water Division	9,999.00	3,854.50	5,423.23	9,000.00	5,400.00	7,000.00
Executive Administration	7,087.37	9,227.32	6,070.12	6,500.00	1,500.00	3,000.00
Source Protection Management	36,592.58	30,907.50	44,167.00	34,200.00	16,500.00	35,500.00
Forestry	4,427.07	6,583.53	6,854.21	1,100.00	340.00	4,100.00
Outside Services	4,357.74	4,618.82	3,325.00	12,335.00	4,625.00	4,625.00
Sanitary Facilities	3,304.00	3,108.00	2,922.50	3,360.00	2,994.00	3,360.00
Repairs to Property & Equipment	11,637.48	4,589.38	3,860.24	7,500.00	6,940.00	7,500.00
Public Education General	738.31	2,585.02	1,500.00	1,500.00	1,500.00	1,500.00
Public Ed. - Labor		33,949.93	39,446.42	50,675.00	50,675.00	51,835.00
Public Ed. - Supplies		5,378.18	3,340.86	5,750.00	2,500.00	5,750.00
Public Ed. - Project Wet						
Public Ed. - Events				2,500.00	1,200.00	1,500.00
Public Ed. - Outside Services		2,017.23	4,066.08	6,000.00	3,700.00	6,000.00
Public Ed. - Public Relations		6,151.49	2,794.01	6,000.00	4,100.00	6,000.00
Public Ed. - Misc.		2,138.47	4,196.31	3,000.00	3,000.00	3,000.00
Insurances	7,927.33	9,188.00	10,236.00	10,621.00	11,200.00	14,970.00
Legal	1,231.24	3,865.50	610.00	1,500.00	-	750.00
Audit/Financial Services	6,091.26	6,191.26	6,191.26	6,791.00	6,423.00	6,791.00
Property Taxes	3,713.05	3,800.04	3,825.09	3,880.00	3,192.00	3,960.00
Operational Supplies		3,434.99	35.50	1,300.00	500.00	1,300.00
Miscellaneous	985.39	1,670.45	1,089.22	2,040.00	1,800.00	2,044.00
Total Operating Expenditures	110,870.94	160,978.19	159,805.93	188,552.00	133,865.25	183,485.00
Capital Expenditures:						
Pontoon Motor	7,400.00					
GIS Flyover		5,130.00				
GIS Digitizing				11,950.00		
Boat Lift		5,950.00				
Forestry Plan		15,000.00				
DASH Boat Trailer			1,575.00			
DASH Boat			18,373.00			
Total Capital Expenditures	7,400.00	26,080.00	19,948.00	11,950.00	-	-
Total Expenditures	118,270.94	187,058.19	179,753.93	200,502.00	133,865.25	183,485.00
Revenues:						
Contributions - AWD	70,607.00	62,558.01	87,500.00	87,385.00	87,385.00	78,125.00
Contributions - LWD	70,607.00	62,558.00	87,500.00	87,385.00	87,385.00	78,125.00
Fund Balance Carryforward				20,000.00		25,000.00
Sale of Timber/Assets	20,346.91	20,967.05	73.00	500.00	-	-
Intergovernmental	5,000.00	17,740.00	13,000.00	5,000.00	9,000.00	2,000.00
Interest	273.45	224.07	231.03	232.00	257.00	235.00
Total Revenues	166,834.36	164,047.13	188,304.03	200,502.00	184,027.00	183,485.00
Surplus	48,563.42	-23,011.06	8,550.10	0.00	50,161.75	0.00
Total contributions from each entity:						
Operations	70,607.00	62,558.00	87,500.00	87,385.00	87,385.00	77,545.00
Land Acquisition	70,000.00	125,000.00	125,000.00	70,000.00	70,000.00	60,000.00
	140,607.00	187,558.00	212,500.00	157,385.00	157,385.00	137,545.00
Water Withdrawal Revenue	966.55	1,158.80	939.20	825.00	1,035.20	1,000.00
Accumulate Accumulative Balance	966.55	2,125.35	3,064.55	3,889.55	4,099.75	5,099.75

-12.61%

Appendix 2

Lake Auburn Watershed Protection Commission

Meeting

Minutes Thursday

November 5, 2015

Location: Auburn City Hall, Auburn, Maine

Time: Meeting began at 3:30 PM

Commissioners Present: Joe Grube, Dick Thibodeau, Lee Upton, Dave Jones, John Bonneau, Robert Thompson, Steve French

Commissioners Absent: Bethel Shields, Michael Lachance

Others Present: Lynne Richard, Michael Broadbent, Sid Hazelton, Kevin Gagne, Heather Hunter and audience

Commissioner Grube called the meeting to order at 3:30 PM

Agenda Item 1: Approve Minutes of Regular Meeting of Sept 9, 2015

Vote ~~1~~ Motion by Commissioner Jones and seconded by Commissioner Thompson to accept the minutes of the regular meeting on 9/9/15 and place on file.

Passed 7 - 0

Agenda Item 2: Presentation on Lake Auburn Sediment Sampling Project - Steve Norton, University of Maine

Mr. Norton was introduced by Mary Jane Dillingham

Mr. Norton presented a study prepared by Heather Doolittle, a student at the University of Maine. The Study was entitled "The problem with Lake Auburn - What is it, what is the origin and is there a solution." Its focus is on the relationship between Lake Auburn sediments and the release of phosphorus into the water. There were several recommendations based on the findings of the study that were presented to the Commission.

The Commissioners thanked Mr. Norton for the presentation and agreed to follow up on some of the recommendations.

Agenda Item 3: Financial Update- Heather Hunter

Commissioner Thibodeau asked about a line item under Outside Services. He wanted to know if the estimate from Androscoggin Land Trust was final as we have added a few properties.

Heather reported that she thought it was final and she also reported that there were public outreach funds that were not needed as part of the 319 Grant which also has a surplus.

Vote 2 - Motion by Commissioner Jones and seconded by Commissioner Bonneau to approve the financial report as written.

Passed 7 - 0

Agenda Item 4: Presentation of 2016 LAWPC Budget- Heather Hunter

Heather went over the revised 2016 Budget, going through each line item and explaining any adjustments.

Vote 3 - Motion by Commissioner Bonneau and seconded by Commissioner Jones to approve the 2016 Budget as presented.

Passed 7 - 0

Agenda Item 5: Water Quality Update & Activity Report- Mary Jane Dillingham

Mary Jane presented Water Quality Graphs showing Turbidity, Secchi disc readings, phosphorus and algae counts.

Commissioner French asked at what Turbidity level does the Water Quality staff become concerned? Mary Jane reported that when Turbidity goes over 1 NTU the bacteria sampling is increased, and when the turbidity goes over 5 NTUs we have exceeded our MCL.

Commissioner Bonneau asked about the large volume of pine needles that were dropped by the pine trees this year and if that was a concern of ours? MJ reported that the reason the Watershed has cultivated white pines specifically is because pine needles are less of a concern than deciduous trees and leaf drops that can produce tannins and lignins.

Commissioner Thibodeau asked how many turbidity test sites we have? Mary Jane reported that there were 5 sites and that turbidity is only measured at the Intake.

Agenda Item 6: Education & Outreach Update - Lynne Richard

Lynne went over the Education and Outreach reports. She reported that it was the beginning of

the school year and that she has started going to the high schools.

Lynne went over the Source Water Protection Report that was presented to the Maine Drinking Water Program as part of annual compliance. She did not bring copies for everyone but the

Lynne has been working on the lands management plan and she has been working with folks who are interested in using the Commission's land. The two groups she has been working with lately are hunters and snowmobilers. Lynne has prepared two documents for hunters to review that will be available on our website. Lynne has had positive interactions with several hunters who have now been permitted to access Commission properties. Lynne asked for help determining which areas allow access. Commissioner Jones urged Lynne to develop a GIS map and to make a suggestion on areas that staff feels access should be restricted.

Snowmobile Trail Use Permits - Lynne has passed around a Draft Permit Application for folks to complete if they would like to groom snowmobile trails on Commission property. There seemed to be some confusion on what the permit would be for. Lynne suggested changing the title on the permit for clarification.

Lynne will work on clarifying the permit.

Lynne raised a concern that was brought to her by the running communities about the marking of quarter miles on the Spring Road. She would like to install 4 x 6 posts indicating the mile marks. Commissioners urged the mile markers be GIS located once they are placed.

Agenda Item 7: Open Session - Public Comments

Dan Bilodeau provided to Sid Hazelton copies of design drawings of the LACP ice house and club house. He also gave a copy of the last directors' meeting.

Tizz Crowley came to thank the Commission for their support during her term as City Councilor. Tizz's term is up but she promised to remain active as she plans to be a member of the Conservation Commission.

Agenda Item 8: Memo to Lead Staff Members and/or Chairpersons of Auburn Agencies, Boards, Commissions and Committees Sid Hazelton

Sid prepared a draft letter to send to the Auburn City Council as a response to their memo.

Vote 3 • Motion by Commissioner Jones and seconded by Commissioner French to approve the letter as written.

Passed 7 • 0

Agenda Item 9: Schedule 2016 Meeting Dates and Locations Sid Hazelton

The following dates were presented to the Commission for 2016 meetings: Feb 10, April 13, June 8, September 14, November 9 and December 7 as needed. The locations were not determined but the Commissioners were fine with the dates.

Agenda Item 10: North Auburn Erosion Control Project Update-Michael Broadbent

Mike reported to the Commissioners that the Auburn Water District repaired erosion damage that was caused several years ago to the Volock property off North Auburn Road. The erosion was caused when the City of Auburn installed a new cross culvert across North Auburn Road.

Vote 4 - Motion by Commissioner Bonneau and seconded by Commissioner Jones to adjourn the meeting.

Passed 7 - 0

The meeting was adjourned at 5:40 PM

A true record, Attest:



Michael Broadbent,

Secretary of the LAWPC

Lake Auburn Watershed Protection Commission

Meeting Minutes

Thursday February 10,

2016

Location: Androscoggin Valley Council of Governments (AVCOG), Auburn, Maine

Time: Meeting began at 3:30 PM

Commissioners Present: Joe Grube, Dick Thibodeau, Lee Upton, Dave Jones, Bethel Shields, Michael Lachance, Steve French

Commissioners Absent: John Bonneau, Robert Thompson

Others Present: Lynne Richard, Michael Broadbent, Sid Hazelton, Kevin Gagne, Heather Hunter and members of the public

Commissioner Grube called the meeting to order at 3:30 PM

Agenda Item 1: Approve Minutes of Regular Meeting of November 5, 2015

Vote 1- Motion by Commissioner Jones, seconded by Commissioner Thibodeau to accept the minutes of the regular meeting of 11/5/15 and place on file.

The following correction needs to be made: Agenda Item 9- the date of the February meeting needs to be changed from 2/16 to 2/10.

Passed 5 - 1

Agenda Item 2: Financial Update- Heather Hunter

Heather passed out the Draft 2015 budget and reported that the Audit is scheduled to start on February, 16th. Heather reported that the overall budget is on a positive trend. There was a surplus in funds for engineering services and source protection which will be rolled into next year.

Heather explained the surplus funds were related to engineering services set aside for 319 Grant work. In addition, we had funds not utilized for divers in the removal of milfoil.

Vote 2 - Motion by Commissioner Shields, seconded by Commissioner Jones to approve the 2016 Budget as presented.

Passed 7 - 0
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Agenda Item 3: Water Quality Update & Activity Report- Sid Hazelton

It has been a warm winter thus far which is not encouraging for water quality. In the month of December the temperature of the lake actually increased.

The Androscoggin Land Trust has completed the easement report of all of the Commission's property. The report indicates we have issues with a couple of properties. Letters have been sent to all properties except for one, the Roy property. This property has an encroachment of a golf course within the conservation easement.

Two weeks ago we investigated a farm off the west Auburn Rd that had a manure pile near the road. The homeowners were educated and agreed to move the piles.

Steve French asked about the algaecide permit. He wanted to make sure that it is in place in the event there is a bloom. Training will be conducted to ensure staff is prepared for an event. The algaecide permit will be up for renewal in 2017.

Sid reported that there is a forestry harvest going on in the watershed. Our forester, Chip Love, has reviewed the work and we will continue to monitor the activity.

Agenda Item 4: Education & Outreach Update – Lynne Richard

Lynne reported that there is lots of education and outreach occurring. She participated in the MWUA Hall of Flags event. She was able to meet with several members of the legislature and help them understand what we do.

Lynne has presented a draft of the Lands Management Plan. She has done as much as she can to prepare the plan for the Commission to review. Lynne passed out copies to the Commissioners and has suggested that we plan a workshop to go over all of the comments and suggestions.

Agenda Item 5: Open Session – Public Comments

Tizz Crowley thanked Lynne for the stakeholders meeting. Tizz felt that the meeting was a success. Tizz again urged the Commissioners to move the meetings to a more central location where they can be recorded for the public to view at a later time.

Agenda Item 6: Summer Street Extension-Sid Hazelton

Sid showed a map of Summer Street to the Commissioners. The City is looking to re-construct the road as the Maine Department of Transportation has not kept it up and has transferred ownership of the road to the City of Auburn. The City of Auburn held a public hearing to discuss with residents the future of the road. The City is proposing to make the road a one-way street for outgoing traffic. The City will re-construct an **11'** road with an extended shoulder for recreation.

To accommodate a homeowner that lives on the corner of Summer Street and Young's Corner Road, the City has asked if they could have a portion of the Commissioners property to accommodate the construction of a new entrance point.

The Commissioners agreed to give the property to the City as long as the City paid for the Transfer of Ownership and cover the closing costs.

Agenda Item 7: Update on East Auburn Route 4 Access Study-Sid Hazelton

Sid attended a staff meeting January **ih** to discuss the reconstruction of Route 4 from Turner Street out to Lake Shore Drive. Their focus is now on fixing the Turner Street intersection and how it can be made safer. Sid reported that MOOT has acknowledged our desire to do away with the Route 4 Turn Out and they have drawn a conceptual design with its removal.

Sid also pushed to see the drainage from Route 4 to drain back to the outfall of the lake. Currently all of the catch basins from Route 4 dump directly into the lake.

Kevin Gagne discussed the sediment study conducted by UMO. Dr. Norton has given us a proposal to take sediment samples in the lake in the deep hole area.

Vote 3 - Motion by Commissioner Thibodeau, seconded by Commissioner French to fund collecting sediment samples from the deep hole of Lake Auburn for analysis by UMO. This work should not exceed \$25,000.

Passed 7 - 0

Agenda Item 8: Adjourn Meeting

It was noted that this was Lee Upton's last meeting. He was thanked by the Commissioners for his service.

There will be a replacement for Lee's position assigned once a new Trustee has been appointed to the Auburn Water District. At that time we will also have the election of officers.

Vote 4 - Motion by Commissioner Jones, seconded by Commissioner Shields to adjourn the meeting.

Passed 7 - 0

The meeting was adjourned at 4:53 PM

A true record, Attest:

Michael Broadbent,

Secretary of the LAWPC

Lake Auburn Watershed Protection Commission

Minutes

Tuesday April 13,

2016

Location: Androscoggin Valley Council of Governments (AVCOG), Auburn, Maine

Time: Meeting began at 3:30 PM

Commissioners Present: Joe Grube, Dave Jones, Bethel Shields, Dick Thibodeau, Steve French, John Bonneau, Bob Thompson, Michael Lachance, Tizz Crowley

Commissioners Absent: None

Others Present: Lynne Richard, Kevin Gagne, Mary Jane Dillingham, Heather Hunter and others from the public.

Commissioner Grube called the meeting to order at 3:30 PM

Agenda Item 1: Approve minutes of Regular Meeting of February 10, 2016

Vote 1- Motion by Commissioner Shields and seconded by Commissioner Jones to accept the minutes of February 10, 2016, and place on file.

Passed 7 -0-1 (Commissioner Crowley abstained)

Agenda Item 2: Appointment of Tizz Crowley to Commission

The Commissioners welcomed Tizz Crowley to the board as she replaces Lee Upton for the Auburn Water District Trustee representative.

Agenda Item 3: Quarterly Financial Update – Heather Hunter

Heather discussed the Annual Audit of the Commission Financials by Runyon Kersteen Ouellette stating there was no adjustment from year end and Heather highlighted the Segregation of Duties statement on p19 and how we do have reconciliations and overwrite controls.

Vote 2- Motion by Commissioner Crowley and seconded by Commissioner Jones to accept the Annual Audit Report and place on file.

Passed 8- 0

Heather also discussed the quarterly financial statement in that she will finalize the statement and forward it to the Commission this week. Heather recommends changing our bank used for the sinking fund and recommends changing from TD Bank to the Auburn Savings Bank with locations in Lewiston and Auburn. As a matter of housekeeping the Commission officially reappointed Heather Hunter as Treasurer of the Commission until December 31, 2017 with the responsibilities of deposits, withdrawals (limit of 3 per month), and oversee the sinking fund.

Vote 3- Motion by Commissioner Bonneau and seconded by Commissioner Jones to accept and appoint Heather Hunter as Treasurer of the Commission.

Passed 8- 0

Vote 4- Motion by Commissioner Bonneau and seconded by Commissioner Jones to accept the accept the Corporate Resolution.

Passed 8- 0

Agenda Item 4: Water Quality & Activity Report – Mary Jane Dillingham

We did not have enough ice on the lake this winter to do sediment core samples. Official Ice out was March 18, 2016 and is the same as the 2011 scenario with ice out. Lets hope we don't get a lot of rain as the August/September time frame is critical.

Boat dock is in and the sampling program has started. There is early season open fishing and despite the short notice we were ready. More notice would be appreciated in the future but even the Game Wardens were aware of the start of opening day.

Public education related to algae response was discussed along with the technical response plan of either copper sulfate or alum.

Agenda Item 8: Update on Long Core sampling project (taken out of order)

Mary Jane discussed the work with Steve Norton (University of Maine Orono Professor) and the plan moving forward to collect sediment samples as the winter was not cold enough and the ice was not thick enough to perform the work. The plan is for end of May and will utilize volunteers and AWD/LWD staff.

Mary Jane discussed the Memorandum of Understanding with A .LT for the monitoring of conservation easements and reporting of their findings. The term for the agreement would be from 2016-2019.

Vote 5- Motion by Commissioner Crowley and seconded by Commissioner Shields to accept authorize Memorandum of Understanding with A.LT.for the services discussed .

Passed 8- 0

Agenda Item 5: Education & Outreach – Lynne Richard

Lynne updated the Commission with the education and outreach activities and the new logo is now in use for the Watershed Commission. Lynne discussed the significance of the 20th Annual Southern Maine Children's Water Festival on May 20th this year and how the effort needs financial sponsor to continue this great effort as 700 – 4th, 5th and 5th grade students get to participate at USM for 1free day of learning about water! Donors and help is needed!

Lynne discussed efforts by the local running club to put mile marker posts and limited signage on Spring Road. Other signs through the watershed will be changing soon to update signs at the boat launch, Spring Road and throughout the watershed. National Trails Day was discussed and is on June 4.

Agenda Item 6: Open Session- Public Comments

Kevin Gagne discussed and recommended to enter into a service agreement with Solitude Lake Management (SLM) for the potential for algaecide application services. The agreement would allow a quick mobilization and algaecide application to Lake Auburn if the algae counts get high and pose a threat to the health of the Lake and for the protection of the drinking water . An algaecide application is already permitted with the State – Maine DEP and several years ago we selected our applicator that is trusted in the industry and was highly recommended to perform this work if required. SLM is licensed to do work on drinking water supplies and in the State of Maine and this contract secures our response with the company and no costs will be incurred unless we request them to mobilize for an actual algaecide application.

Vote 6- Motion by Commissioner Jones and seconded by Commissioner Bonneau approving a contract with Solitude Lake Management (SLM) for algaecide application services for a not to exceed amount of \$50,000 to be funded from the sinking fund.

Passed 8- 0

Also discussed during opens session was a concern that tractor trailers were spending nights and weekends along Lake Shore Drive and we should let Auburn Police Department know to add some patrols.

Agenda Item 7: Update on Summer Street Extension Development Plans

The City of Auburn has finalized their plans for the redesign/rework of the Summer Street Extension and has requested a deed transferring land from the Commission to the City of Auburn so the work can be completed for safety improvements. There was some discussion about the design and improvements.

Vote 3- Motion by Commissioner Crowley and seconded by Commissioner Jones to adopt to approve the land transfer deed as drafted with the stipulations we do not pay transfer tax or any other costs associated with the transfer and the approval is contingent upon City of Auburn fully funding the project.

Passed 7 - 0

Agenda Item 9: Adjourn Meeting

Vote 8 - Motion to adjourn by Commissioner Shields, and seconded by Commissioner Jones to adjourn the meeting.

Passed 8 - 0

The meeting was adjourned at 4:56 PM

A true record, Attest:

Robert Thompson,
Secretary of the LAWPC

Lake Auburn Watershed Protection Commission

Meeting Minutes

Wednesday June 8,

2016

Location: Androscoggin Valley Council of Governments (AVCOG), Auburn, Maine

Time: Meeting began at 3:30PM

Commissioners Present: Bob Thompson, John Bonneau, Bethel Shields, Steve French, Joe Grube, Dave Jones, Dick Thibodeau, Tizz Crowley (arrived 3:45PM),

Commissioners Absent: Michael Lachance

Others Present: Sid Hazelton, Heather Hunter, Kevin Gagne, Dan Bilodeau, KC Geiger, Lynne Richard

Commissioner Grube called the meeting to order at 3:30 PM

Agenda Item 1: Approve Minutes of Regular Meeting of April 13, 2016

Vote 1 – Motion by Commissioner Bonneau and seconded by Commissioner Thompson to accept the minutes of the regular meeting on 4/13/16, and place on file.

Passed 7 -0 (Commissioner Crowley absent)

Agenda Item 2: Reappointment of Commissioner Bonneau

It was noted that the Auburn Water District re-appointed Commissioner Bonneau for another term as Commissioner on the Board effective July 2017-July 2020.

Agenda Item 3: Quarterly Financial Update – Heather Hunter

All line items are trending well and within budget.

There was a question from Commissioner Bonneau about the investment of fund balances. Heather explained that the sinking fund is invested in two CD's. One is at the Lewiston Municipal Federal Credit Union, and one at Auburn Savings. The operating money is kept at Key Bank.

Vote 2–Motion by Commissioner Bonneau and seconded by Commissioner Shields to approve the Quarterly Financial Update.

Passed 7 -0 (Commissioner Crowley absent)

Agenda Item 4: Water Quality Update & Activity Report- Sid Hazelton

Lake quality is good at this time. Both turbidity and algae counts are trending normally. We experienced a record early ice-out this spring, which is not ideal for water quality, but we are hopeful that the trends will continue. A chart was presented and discussed that compares the current turbidity with 2012. The critical period is normally late summer to early fall.

Phosphorus sampling is occurring at the tributaries, as well as Lake patrols and boat inspections.

The Bates College Buoy has been deployed, and is collecting data.

The long core sampling program is underway as well. We look forward to the results of the analysis.

A summer intern is on board, and has mapped some of the active milfoil areas.

Secchi disk readings are between 7 and 8 meters, which is good. More data will be collected throughout the summer.

High School Students who are involved in the Stormwater Management Research Team (SMART) have been sampling water at the Townsend Brook inlet to the Lake. This program is funded by a grant through the University of Maine. They may be able to expand the program this summer, to involve more students and sample further into the Townsend Brook Watershed to help pinpoint the location of phosphorus input.

Agenda Item 5: Education & Outreach Update - Lynne Richard

School activities are winding down, but a few projects are planned for the summer.

Approximately 75 students will be involved in field trips to various locations in the watershed.

Lynne will be attending a project WET Conference in South Carolina in August. She was recently elected to serve on the National Coordinators Advisory Board.

Lynne taught a class at USM Senior college about Lake Auburn's Natural History, which was well received.

Dave Jones gave a presentation on storm water to Gifted and Talented students as part of the Androscoggin Valley Education Consortium.

Lynne and Kyla presented at the Southern Maine Childrens Water Festival to over 700 students.

Buffer planting was installed by students from ELHS on May 13 as part of community service day.

Lynne is working on new signage to post in the watershed. Examples of good and bad were presented to the commission. The hope is that by the next meeting the new signs will be installed.

The order authorizing the use of motorized wheelchairs on LAWPC trails was discussed. It was generally agreed that the use of other motorized vehicles such as golf carts or other would be discussed in the future on a case by case basis.

Vote 3-Motion by Commissioner Jones and seconded by Commissioner Crowley to approve the Order allowing the use of motorized wheelchairs on LAWPC trails.

Passed 8 -0

Agenda Item 6: Open Session – Public Comments

Dan Bilodeau encourages the commission to contact our insurance carrier to make sure they understand the Maine landowner liability law which gives us a \$400,000 liability protection, as well a provision that states people cannot sue owners who open their property for public recreational access.

Dan questioned where the water samples were taken on Townsend brook. It was clarified that they were taken at the culvert prior to entering the lake. He questioned the effect of the decaying vegetation in the swampy area on the presence of phosphorus.

Dan requested clarification on trail ownership around the Land Lab. Lynne Richard provided answers.

Dan reminded the Commissioners about the Upcoming Rt. 4 meeting, and saw it as an opportunity to promote the addition of a bike path from Lake Shore Drive to the boat launch, and a future southern link by the Community College. He mentioned the possible expansion of the boat launch to include a walking path, benches, and signage.

Sid Hazelton added that the meeting will be held at 5:30PM this evening in the council chambers. This will be the third meeting that has been held to discuss the design of the road. He will be there to encourage the elimination of the turnout, as well as the relocation of the catch basin outlets to get them to drain away from the lake, and to the outlet on the eastern side of Rt. 4.

Tizz mentioned that National Trails Day was celebrated on Saturday June 4, and the LAWPC was commended by a group of people who took a self-guided walk on our trails.

Tizz was hoping the Commission could exert some influence on the City of Auburn, as the bathroom facilities are currently not operational at the Park on Rt. 4. The only facility available is the porta-potty at the boat launch. Sid mentioned that he was recently contacted by the Rec Director asking about sampling the water to re-open the beach to swimming. She was directed to contact A&L labs for assistance.

Sid thanked Dan for helping the Neighborhood Association group to coordinate a trash pickup around the area.

Additional Agenda Item - Future Meeting Times

There was discussion about moving future meetings to 5:00PM as opposed to the current time of 3:30PM. This was ok with some commissioners, but a problem for others. It was generally agreed that no time seemed to work for everyone. The possibility of making electronic participation available in the future was discussed as well. The idea of moving future meetings to a location where it could be recorded, such as the Auburn or Lewiston Council Chambers, was discussed.

Vote 9 - Motion by Commissioner French, and seconded by Commissioner Shields to keep the meeting times and dates as-is for the remainder of 2016.

Passed 7-1

Agenda Item 7: Update on Long Core Sampling Project – Sid Hazelton

Addressed during Water Quality Report

Agenda Item 8: Update on Rt 4

Improvements Addressed during open session

Agenda Item 9: House Fire 625 North Auburn Road

The residence at 625 North Auburn Road burned during the winter of 2016. The building was demolished and the site was backfilled. A neighbor contacted us concerning possible groundwater contamination from heating oil. We contacted the DEP, and they tested the area and found no hazard to the environment or their adjacent well.

Agenda Item 10: Adjourn Meeting

Vote 10 - Motion by Commissioner Grube, and seconded by Commissioner Crowley to adjourn the meeting.

Passed 8 - 0

The meeting was adjourned at 4:45 PM

A true record, Attest:

A handwritten signature in cursive script that reads "Sid Hazelton".

Sid Hazelton,

Secretary of the LAWPC

Gull Management on Lake Auburn, Maine



Annual Report 2015

Prepared by:

**United States Department of Agriculture
Animal and Plant Health Inspection Service
Wildlife Services**

Prepared for:

**Auburn Water District &
Lewiston Water Division**

INTRODUCTION

This document serves as an annual report to the Lewiston Water Division (LWD) and Auburn Water District (AWD) for management activities conducted by the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (WS) on Lake Auburn for 2015.

Lake Auburn provides drinking water to approximately 45,000 residents in the cities of Auburn and Lewiston, Maine. Due to the high water quality level of Lake Auburn, less treatment is required than most water sources. Lake Auburn is one of fewer than 60 surface water supplies in the United States that are unfiltered. Due to the level of water quality and an ongoing watershed protection program, the Auburn Water District (AWD), and the Lewiston Water Division (LWD) have been granted a waiver from the federal filtration requirement of the Surface Water Treatment Rule. The U.S. Environmental Protection Agency (EPA) and the Maine Drinking Water Program (MDWP) set and enforce standards for water quality governing Lake Auburn. By EPA standards, no more than 10% of daily water samples taken from Lake Auburn can exceed 20 fecal colonies per 100 milliliters in a six month running average. If the number of fecal colonies exceeds EPA standards, the filtration waiver may be revoked. WS was contacted after an increase in bacteria levels in Lake Auburn was linked to the presence of large flocks of gulls on Lake Auburn in 2004. Since gull management began in the fall of 2005, WS management presence has resulted in lower bacteria levels that have remained compliant with EPA standards, allowing AWD and LWD to retain their filtration waiver.

METHODS

An integrated gull damage management approach was initiated by Wildlife Services on Lake Auburn in November, 2005. Management actions involve lethal and nonlethal techniques and this strategy was effective in reducing use of the lake by gulls. Timing of management varied each year depending on ice presence on Lake Auburn (Table 1). Yearlong management (ice out through ice in) began in 2007 after a wildlife biologist and technician were assigned full-time to the project starting in 2006.

Table 1. Yearly Gull Management Schedule

WS Management Schedule 2005-2015		
Year	Starting Date	Ending Date
2015	April 23	January 19, 2016
2014	April 24	January 7, 2015
2013	April 15	December 12, 2013
2012	March 23	January 3, 2013
2011	April 25	January 13, 2012
2010	March 22	January 3, 2011
2009	April 14	December 26
2008	April 24	December 29
2007	April 23	December 19
2006	June 8	January 17, 2007
2005	November 21	December 13

While on the boat, employees wore Coast Guard approved personal flotation devices at all times. During fall and winter, full body survival suits and jackets were worn. WS employees received firearm, pyrotechnic, and boating safety training as required in WS Directives 2.615 and 2.625.

Non-lethal Techniques

Non-lethal methods are a critical component of an integrated wildlife damage management program. Harassment techniques included a motorboat utilizing a 90 horsepower motor, which was driven at varying speeds toward gulls present on the lake. A 360 degree flashing white light mounted to the top of the boat was switched on at times of low light for additional harassment. Pyrotechnic crackershells were fired at roosting or flying flocks of gulls from a single shot 12 gauge shotgun. Crackershells were shot from the boat or from shore when ice prevented boat access to open water. In addition to crackershells, WS used an avian dissuader laser gun to disperse gulls from the lake when ice prevented boat access.

Lethal Techniques

Lethal shooting was used to reinforce non-lethal methods. One to three gulls could be shot from a flock and the remainder would disperse. Lethal shooting is 100% selective for target species and WS ensured that gulls were killed as quickly and humanely as possible. All required permits to lethally remove wildlife were obtained from appropriate state and federal agencies.

Gulls observed roosting or attempting to roost on Lake Auburn were approached with the motorboat. Lethal shooting was employed if non-lethal methods were ineffective. Gulls were taken using a 12 gauge shotgun and non-toxic shot. Once gulls were out of range for lethal tactics, non-lethal pyrotechnics were employed until gulls were harassed off the lake.

Wildlife Services retrieved dead gulls with a fishing net; gulls not saved for study specimens were buried. WS developed a device that captured empty shotgun shells to prevent them from contacting the water. Safety was always the primary consideration when conducting management on Lake Auburn due to the level of human activity on and around the lake. Boaters and anglers frequent the lake and there is a college, two major roads, homes, camps, and walking trails along the shores of Lake Auburn.

During the spring and summer, management was conducted five times a week (weather permitting), most often during the last 3 hours of daylight. Fewer lake visits were made during morning and midday, although management was conducted throughout the day if gulls were observed on the lake. From October through December, the number of visits made to Lake Auburn to conduct management activities increased. However, the intensity of the management varied from year to year. In 2005, it was necessary for WS to be on the lake morning and evening (~3 hour shifts), seven days a week with a crew from AWD or LWD assisting each of those days. In 2006, WS rotated shifts with AWD and LWD to provide coverage for two to three hours each morning and evening, seven days a week on Lake Auburn. In 2007, WS rotated shifts with AWD and LWD to provide coverage once a day (during the evening hours), seven

days a week. Since 2008, management was conducted during the day and in the evening, five to six days a week by WS.

Gull Population Study

WS also continued an ongoing bird population survey of the local gull population in the areas surrounding Lake Auburn starting August 14, 2006. WS established 35 designated study points that were visited one to three times a week by vehicle for observation. Study points consisted of other water bodies (lakes, ponds, and rivers), farms, businesses, recreational areas, and other areas of bird activity. A spotting scope and a set of binoculars were used to make observations. The goal of the study was to determine gull attractants to the area around Lake Auburn and to determine the size and composition of the local gull population.

RESULTS

Bacteria Levels

In 2004, prior to gull management activities, Mean Fecal Count (MFC) for the months of October, November, and December was 18.24 fecal colonies per 100ml. Following initiation of management in 2005, MFC declined 51.5% and were further reduced from 2006 to 2015 to less than 3 fecal colonies per 100ml (Figures 1 & 2). In 2015, there was a 94% decrease in bacteria levels compared to 2004. Overall, the annual average of bacteria levels in Lake Auburn in 2015 were nearly the lowest they have been since gull management began (Figure 2).

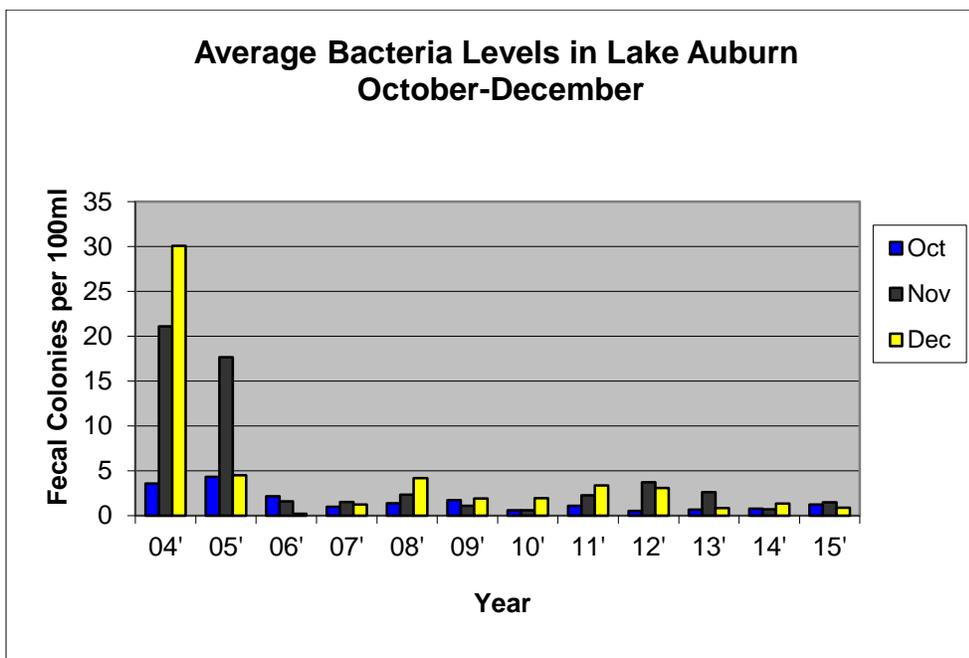


Figure 1. Monthly average of bacteria (fecal) levels in Lake Auburn for October, November, and December, from 2004–2015.

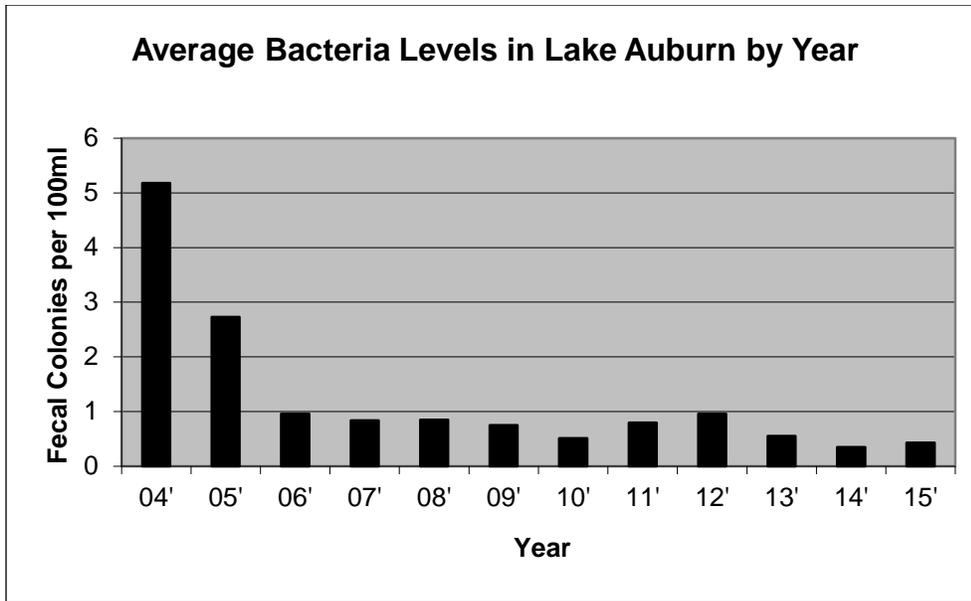


Figure 2. Yearly average of bacteria (fecal) levels in Lake Auburn from 2004-2015.

Shooting and Harassment

Lake Auburn is primarily used by three species of gulls: ring-billed gulls (RBGU) (*Larus delawarensis*), herring gulls (HEGU) (*Larus argentatus*), and greater black-backed gulls (GBBG) (*Larus marinus*). Between 2006 and 2015, 88,752 gulls were dispersed from Lake Auburn, while 2,974 were lethally removed (Table 2). The species composition of gulls lethally removed between 2005 and 2015 is as follows; ring-billed gulls 68%, herring gulls 30%, and greater black-backed gulls 2.0%.

Table 2. Number of Gulls Shot and Dispersed by Species & Year

Year	Take by Species			Total	
	RBGU	HEGU	GBBG	Killed	Harassed/Dispersed
2005	38	124	11	173	unknown
2006	119	69	4	192	13,541
2007	213	56	8	277	9,027
2008	243	61	4	308	12,063
2009	179	53	8	240	7,884
2010	234	128	7	369	8,446
2011	360	228	5	593	11,613
2012	234	57	4	295	13,290
2013	233	34	0	267	7,161
2014	90	18	1	109	1,454
2015	94	55	2	151	4,273
Total	2,037	883	54	2,974	88,752

Gull Presence

At the start of the project in the fall of 2005, several thousand gulls were habituated to using Lake Auburn. On the first day of this project, over 2,000 gulls were observed on the lake. By the end of the 2005 season, presence was down to as few as 5 gulls a day. In 2006, gulls were observed on the lake throughout the year; however, flocks were never as large as those seen in 2005. The trend continued with fewer gulls observed and dispersed from Lake Auburn each year compared to 2006. However, there have been fluctuations in the number of gulls present on Lake Auburn each year.

2015 Trends

In 2015, gull presence on Lake Auburn was the second lowest it has been since management began in 2005. Between 2006 and 2014, there was an average of 9,386 gulls dispersed each year on Lake Auburn. In 2015, there were 4,273 gulls observed and dispersed on Lake Auburn, which is 54% lower than the 2006-2014 average of 9,386 gulls. WS observed the typical seasonal pattern of gull presence on Lake Auburn in 2015, except for mid-fall (October). In October, gull presence was very low compared to past years of management (Table 2 and Figure 4). However, gull presence on Lake Auburn did increase in late fall into early winter, until the lake froze over completely (Figure 3 and 4). Overall, 2015 gull presence was far below the average when compared to observations made from 2004 through 2013. However, there was a significant increase compared to 2014 (Table 2).

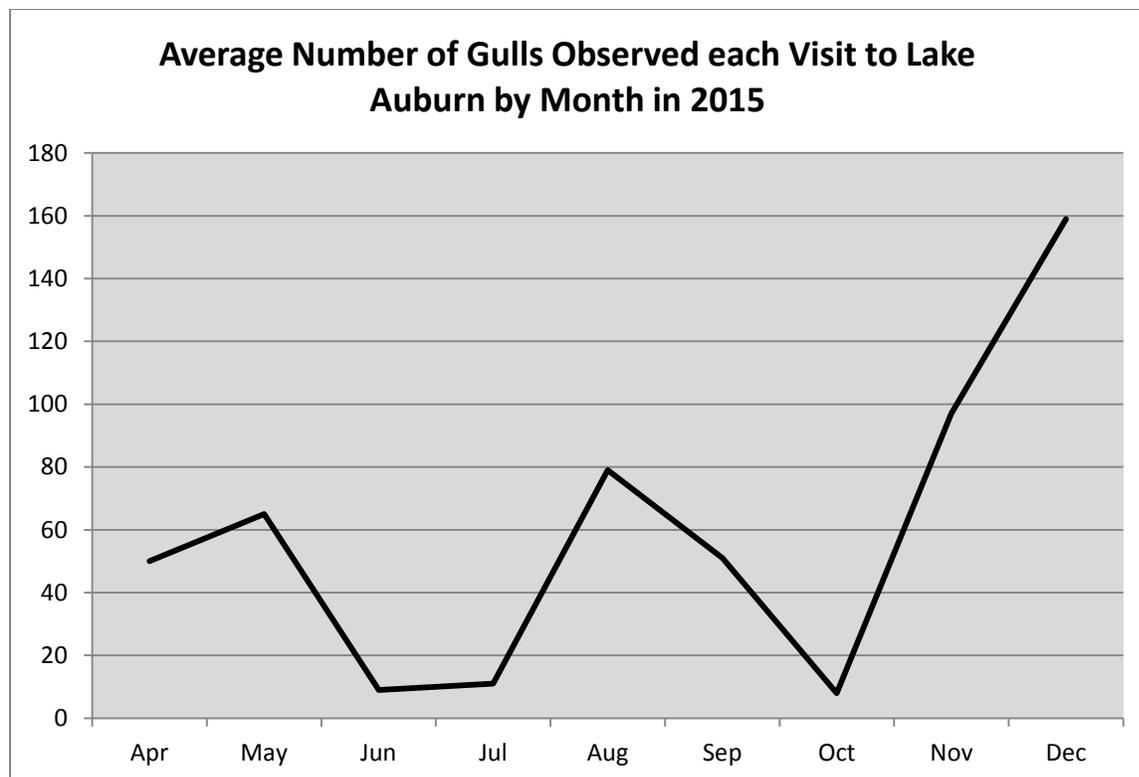


Figure 3. Average number of gulls observed each visit to Lake Auburn by month in 2015.

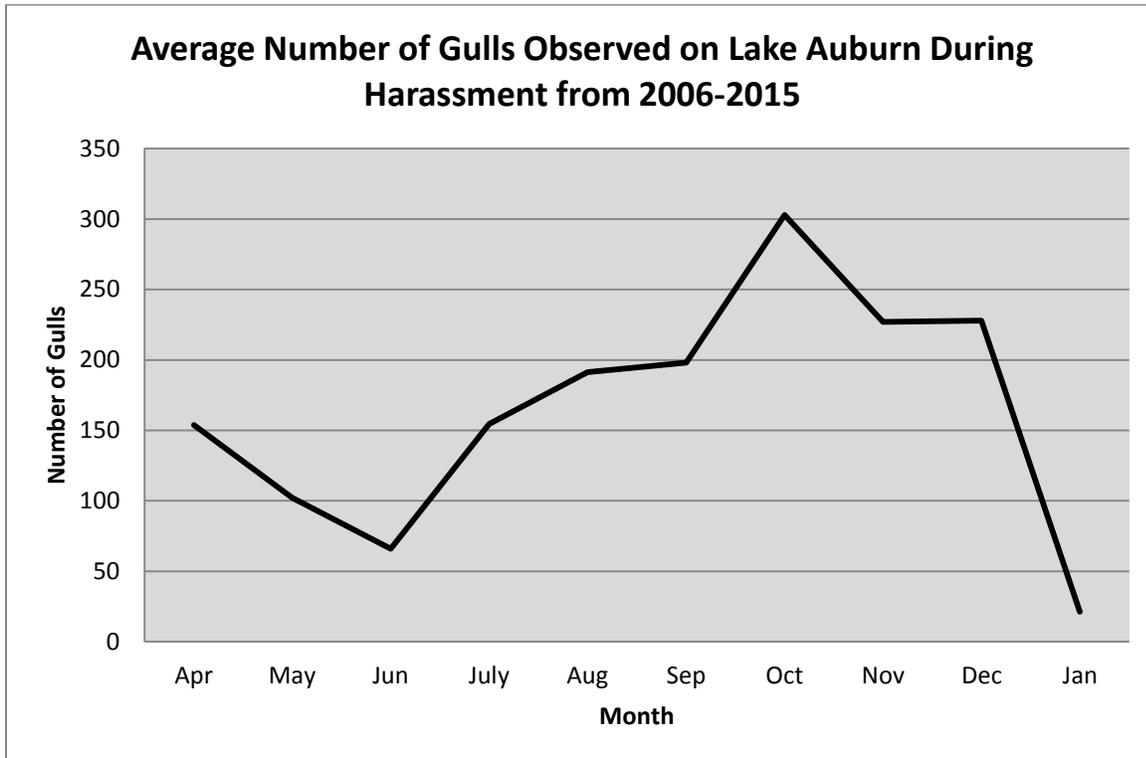


Figure 4. Average number of gulls observed on Lake Auburn during harassment from 2006-2015.

Gull Population Study

As a result of management on Lake Auburn, gulls began using Taylor Pond, which is adjacent to Lake Auburn, as an alternate roosting site. Since 2012, gulls were also observed roosting at Sabattus Pond, however, not to the extent that Taylor Pond is used. With crews dispersing gulls on Lake Auburn at dusk, simultaneous gull counts on Taylor Pond and Sabattus Pond provided an excellent opportunity to estimate the size of the local gull population. Flocks on Taylor Pond have numbered as many as 800 gulls in the summer, to 3,000 or more in the fall. Roosting flocks on Sabattus Pond numbered 200 or more in the summer and early fall.

WS and Maine Department of Inland Fisheries & Wildlife (MDIFW) have observed that the local gull population that roosts in Lewiston/Auburn is comprised of immature birds and non-breeding adults (B.Allen, MDIFW pers. comm. 2007). Based on past yearlong observations made by WS, the local population of gulls was estimated at 800 to 1,000 individuals. Breeding adults and their newly fledged young join the local population from nearby coastal nesting colonies from mid to late summer. When migrants from other areas arrive in the fall, local populations can increase to over 3,000 individual gulls. After lakes and ponds ice over, as many as 1,000 gulls could still be observed feeding in the Lewiston/Auburn area. Using multiple

observers, WS was able to track gulls returning to the coast each evening by following the Androscoggin River, a large flyway that runs through the middle of Lewiston/Auburn.

Several natural and artificial gull feeding locations were discovered in the Lewiston/Auburn area and monitored while conducting the gull population study. Gulls were regularly observed feeding at parking lots near malls, restaurants, and stores where they took advantage of fast food waste and handouts from people. Numerous people have been observed feeding gulls on a regular basis at different sites (usually parking lots) around the twin cities. During rainy weather gulls were often seen feeding on worms in recreational fields. Farms provided gulls with seasonal foraging opportunities as well, when agricultural fields would be plowed, or when the hay was cut. Waste water treatment facilities and compost facilities were also utilized on a regular basis by gulls as a food source.

During the months of April through June, WS has searched for gull nests and nesting locations in and around Lewiston and Auburn since 2007. Rooftops of large buildings, islands, and other likely nest sites were monitored during this time. No gull nests were observed in the Lewiston/Auburn area during the nesting seasons of 2007 through 2015.

DISCUSSION

Bacteria Levels

Research has shown that gulls carry various species of bacteria such as *Bacillus sp.*, *Clostridium sp.*, *Campylobacter spp.*, *Escherichia coli*, *Listeria spp.*, and *Salmonella spp.* (MacDonald and Brown 1974, Fenlon 1981, Butterfield et al. 1983, Monaghan et al. 1985, Norton 1986, Vauk-Hentzelt et al. 1987, Quessey and Messier 1992). Water samples from Lake Auburn tested positive for *Campylobacter lari* (Camp, Dresser, & McKee Inc. 2005). Transmission of bacteria from gulls to humans is difficult to document, however, Reilley et al. (1981) and Monaghan et al. (1985) both suggested that gulls were the source of contamination for cases of human salmonellosis. Contamination of public water supplies by gull feces has been stated as the most plausible source for disease transmission in some cases (e.g., Jones et al. 1978, Hatch 1996). Fecal samples collected and analyzed for fecal coliform bacteria concentrations from both ring-billed gulls and Canada geese revealed that fecal coliform concentrations are relatively high per gram of feces (Alderisio and DeLuca 1999). Gull feces has also been implicated in accelerated nutrient loading of aquatic systems (Portnoy 1990), which could also have serious implications for municipal drinking water sources. Fortunately, management efforts by AWD, LWD, and WS lowered bacteria levels to be in compliance with the U.S. EPA standards. A correlation between gull presence and bacteria levels in Lake Auburn was observed when management was started in the fall of 2005. Initiation of management resulted in decreased bacteria levels. Historically, bacteria levels increased through the months of October, November, and December. With yearlong gull management, bacteria levels remained consistently low through most of the year from 2006 through 2015.

As stated in the results, the annual average of bacteria levels in Lake Auburn in 2015, were the second lowest they have been since gull management began in 2005. It is important to note that

this occurred in the same year that WS observed the second fewest gulls ever recorded in management history on Lake Auburn. This correlation between coliform bacteria levels and gull presence on Lake Auburn continues to be an observed theme each year that management has been conducted.

Gull Management

Bird management to protect drinking water is not unprecedented. Several municipalities and agencies have recognized a strong correlation between increasing numbers of gulls and other waterfowl at drinking water sources and increased fecal coliform concentrations. This issue is well documented at Wachusett and Quabbin Reservoirs in Massachusetts where a bird harassment program was implemented in 1993 (MA DOCR 2010). The bird harassment program has been successful in reducing the bird's impacts, however, the Massachusetts Department of Conservation and Recreation (MADCR) would like to see the number of gulls roosting on the reservoirs substantially reduced or eliminated (MA DOCR 2011). The New York City Department of Environmental Protection also identified birds as a significant source of fecal coliform at several NYC reservoirs. NYC DEP successfully lowered fecal coliform to compliant levels in their reservoirs after the initiation of a waterbird management program (NYC DEP 2009).

In addition, the United States Environmental Protection Agency warns that birds such as gulls and geese are reported to be the most common and significant sources of contamination of open reservoirs. The US EPA suggests managing and harassing wildlife as a method to prevent contamination of drinking water (US EPA 2001).

Gull presence has been greatly reduced on Lake Auburn since management began in 2005, even though gulls continue to use the Lewiston/Auburn area. This suggests that the local gull population has learned to avoid Lake Auburn from year to year due to management efforts. As stated earlier, 2014 and 2015 had the lowest number of gulls dispersed on Lake Auburn since management began full time in 2006. This decrease could likely be the result of long-term gull management activities having an effect on several generations of gulls that use the Lewiston/Auburn area. From observations made in 2014 and 2015, it appears that we could be seeing a significant alteration in gull behavior in the Lewiston/Auburn area. However, future years of management will reveal whether this is the case or not.

Additionally, under normal conditions, gulls that use Lake Auburn have been easier to disperse over the past eight years compared to the early years of management in 2005 and 2006. Gulls were more likely to leave Lake Auburn when other gulls were already loafing or roosting at Taylor Pond, less than a mile away. Due to the success of yearlong management, intensity of management efforts has remained constant throughout the year rather than increasing dramatically during the fall months (October through December) when gull presence and fecal levels have historically been high. However, it is likely that the majority of the local gull population would return to Lake Auburn on a daily basis if AWD, LWD, and WS stopped conducting management. Evidence of this has been observed in past years and is documented in prior annual reports. WS strongly suggests that yearlong management activities continue on Lake Auburn.

Gull Population Study

The gull population study was started by WS to help determine why gulls were utilizing Lewiston and Auburn in such large numbers. Lake Auburn is a large body of water gulls can utilize for loafing and roosting that is close to reliable food sources and is within an important migration corridor (Androscoggin River). It is also close to the coast for gulls to travel easily to forage or loaf. Due to management on Lake Auburn, gulls began utilizing Taylor Pond as an alternate roosting site. Taylor Pond is most likely being used by the gulls because of its close proximity to Lake Auburn (less than 1 mile). Lewiston/Auburn is not the only area experiencing this phenomenon. It has been documented that gulls are opportunistic feeders and have taken advantage of the increase in the human population and its standard of living, feeding on contaminated waste during the day and then roosting on inland water bodies including reservoirs at night (Gray 2008). In Addition, the ring-billed gull population experienced a rapid increase in size in Maine in the late twentieth century that continues to the present (Greenlaw and Sheehan 2003).

Observations from the gull study indicate that there is still a presence of gulls in the Lewiston/Auburn area even though gull presence decreased significantly on Lake Auburn in 2014 and 2015. Based on those observations, it appears that there are fewer gulls using the Lewiston/Auburn area than there were at the beginning of management in 2006. However, in the 2014 report it was stated that further monitoring through the gull study was necessary to make a more definitive determination. After the 2015 season, WS learned that the local gull population numbered 900 to 1,200 individuals based on roosting site counts in the late summer and early fall months. WS never observed a flock of gulls larger than 1,200 individuals at one time in 2015. However, larger flocks could have been present at alternate roosting sites on the nights WS was not conducting surveys due to WS being on Lake Auburn for gull harassment. Based on observations from past years, it is likely that flocks of gulls numbering greater than 1,200 individuals did spend time in Lewiston/Auburn during the fall migration in 2015. However, continued monitoring in 2016 through the gull study, will help us to better understand any recent changes to the size of the local gull population.

As stated earlier, Lake Auburn is used primarily by ring-billed, herring, and greater black-backed gulls. The species composition observed on Lake Auburn changes depending on the time of year. Ring-billed gulls are the most common and abundant throughout the year. Herring gulls are less abundant but present in significant numbers in the spring, late summer, and fall. Flocks of greater black-backed gulls are usually only present in larger numbers during the spring and fall. Between 2006 and 2015, 68% of the gulls that were lethally removed were ring-billed gulls. In 2014 alone, ring-billed gulls accounted for 83% of the number of gulls removed from the lake. Based on these figures and observations made on Lake Auburn by WS staff, ring-billed gulls are the most abundant species of gull that use the lake and the Lewiston/Auburn area. Ring-billed gull populations are increasing regionally as well as in Maine based on recent literature, bird surveys, and population estimate models. For example, in 1984, the population of ring-billed gulls in the Great Lakes region was estimated at approximately 648,000 pairs (Blokpoel and Tessier 1986). Blokpoel and Tessier (1992) found that the nesting population of ring-billed gulls

in the Canadian portion of the lower Great Lakes system increased from 56,000 pairs to 283,000 pairs from 1976 to 1990. Regional populations of ring-billed gulls have increased at a rate of 8% to 11% per year since 1976, with a regional breeding population of 40,844 gulls in 13 colonies reported in the 1990s (MANEM Waterbird Regional Plan 2006). Similar rates of increase were observed for populations of ring-billed gulls in Maine (Greenlaw and Sheehan 2003). No breeding population estimates are currently available for Maine; however, the MDIFW reports that there has been an increase in nesting ring-billed gulls in Aroostook County, Maine. MDIFW also reports that populations of ring-billed gulls are increasing as a result of expanding breeding populations in the St. Lawrence River and Lake Champlain in Vermont (B. Allen, MDIFW, pers. comm. 2014). Ring-billed gulls do have a year round presence and can be observed throughout much of the State.

The Breeding Bird Survey (BBS) is an annual survey conducted in June of each year and encompasses all breeding birds in the United States (Sauer et al. 2014). The Christmas Bird Count (CBC) is an index of wintering bird populations conducted annually in December and January (National Audubon Society 2010). In Maine, the number of ring-billed gulls observed during the BBS has shown an increasing trend estimated at 10.18% annually from 1966 through 2013, with the population beginning to expand in the mid-1980s (Sauer et al. 2014). According to BBS trend data provided by Sauer et al. (2014), ring-billed gull populations have increased at an annual rate of 3.6% in the Eastern BBS Region and by 0.78% annually in the United States from 1966 through 2013 (Sauer et al. 2014). CBC data from 1966 through 2014 shows a general increasing trend for wintering populations of ring-billed gulls throughout the State (National Audubon Society 2010). According to the Mid-Atlantic/New England/Maritimes Regional Waterbird Conservation Plan (2006), ring-billed gulls are considered a species of least concern in Bird Conservation Region (BCR) 14. The majority of Maine, New Hampshire, Vermont, Nova Scotia, New Brunswick, and portions of Southern Quebec and the Adirondack region of New York are encompassed by BCR 14. Almost 41,000 ring-billed gulls are believed to breed in BCR 14 (MANEM Waterbird Regional Plan 2006). With ring-billed gull populations on the rise in Maine and the surrounding regions, the threat that gull fecal contamination poses to drinking water sources is likely to continue.

Several observations of people feeding gulls continued in 2015. At certain locations, many people brought large amounts of scraps, leftovers, as well as bread from bakery outlets. New feeding opportunities such as these are likely making Lewiston/Auburn more of an attraction to resident and migratory gulls. Installing signage to discourage people from feeding gulls and other species of wildlife could be considered by AWD and LWD at sites identified by WS. However, such measures have been taken by Massachusetts Department of Conservation and Recreation to reduce or eliminate food resources that are available to gulls, and their results were published recently (Clark et al. 2015). The study was conducted between 2011 and 2013 at eight parking lots in Massachusetts. Parking lots with signage and education were compared to parking lots without signage and education. Observers spent over 1,200 hours monitoring the study sites and found that there was no significant difference between education lots and non-education lots. Based on this study, it may not be a valuable use of resources for the cities of Lewiston and Auburn to start a signage and education program at parking lots. The study did reveal some information that is valuable for us to know as we monitor the gull population in the Lewiston/Auburn area. For example, the study (Clark et al. 2015) found that:

- 98% of the gulls feeding at parking lots were ring-billed gulls
- The average number of gulls observed at a parking lot was 30 individuals
- Gulls were observed actively feeding in parking lots on 611 occasions
 - 91% of those observations involved people feeding the gulls
 - The remaining 9% were gulls scavenging on garbage
- The majority of people feeding gulls were only observed on one occasion
 - About 17% were observed feeding gulls on more than one occasion
- Bread was the most common food item that people fed to gulls
- Most people stated that they fed gulls out of concern for the birds
- The authors suggested that:
 - limiting or eliminating human provided food for gulls is challenging
 - Prohibitive and educational signage is not likely to change people's behavior

Wildlife Service prepared and published an Environmental Assessment (EA) of Gull Management in Maine. Following public input WS subsequently signed and published a Record of Decision and Finding of No Significant Impact (APHIS 2012). In 2015, WS re-addressed gull management in Maine through the same process to ensure that the work that WS conducts on Lake Auburn will not have a significant impact on the environment at a local or regional level.

Conclusion

In 2015, AWD, LWD, and WS continued to successfully disperse gulls from Lake Auburn. Due to successful management, the goal of decreased fecal coliform bacteria levels in the Lake was again accomplished. To ensure that bacteria levels remain in compliance with EPA standards, WS recommends continuing the current level of gull management.

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Education and Outreach Report
Activities from Nov 5, 2015 – September 30, 2016

Education Activities			
Town	School	# students	Topic/Activity
Auburn	Area high schools	45	Stormwater NPS pollution
Lewiston	Lewiston High	30	Watershed model lesson and mini grant
Hebron	Hebron Station School	20	Water Cycle
Auburn	Middle School	80	Set up trout tank
Casco Hatchery	Hebron Station School	20	Tour of trout hatchery
Various	Auburn, Lewiston, Turner	35	Tour of LAUV, organism ID at Lab
Auburn	Middle School	120	Water Cycle Lesson
Turner	Elementary	15	Set up fish tank
Lewiston	Lewiston High	120	Water Cycle lesson, fish tank setup
Auburn	Edward Little High	30	Consult re: buffer planting plans
Lewiston	University Southern Maine	20	Senior College meeting once a week for 3 weeks
Lewiston	Geiger Elementary	20	Requested visit to discuss wetland and vernal pool ecosystems
Portland	Children's Water Festival	700	"your clear choice" display
Auburn	Sherwood Heights	20	Fish release
Biddeford	University of New England	40	Project WET Workshop
319 and Outreach Activities			
Site	Group	Topic/Activity	
Bethel	Androscoggin Watershed Council	Presented at Annual Conference- Trout Ed	
Maine State House	Hall of Flags	Source Protection Display with MWUA	
Lewiston	AVSWCD	Work Group – Setting Priorities for Watershed	
Auburn	PRST	Permission meeting	
Spring Road	Running club,	Mile Marker signage planning	
Spring Road	Steward Paula Curtis-Everett	Finished Tree brochure	
LAWPC	Stakeholders	Review draft of Land Mgmt Plan	
Whitman Spring Rd	ALT	Reviewed report- no new recommendations, still some erosion issues to address	
Watershed tour	New partner for AVSWCD	Update and ID remediation projects	
Watershed resident	Complaint/inquiry	Mapped location- outside watershed, city action taken	
Lake, Basin, Tribs	Seasonal trapper	Permission, Clarification of open areas	
Website views	Past 30 days: public	699 page views, 227 users	
Fb posts	58 viewers	Approximately 1 post/week	
UMaine Extension & UMaine Farmington	44 teachers	Training workshops	
Little Wilson Pond	Property Owner (Sevit)	319 Landscaping	
Little Wilson Pond	Property Owner (Gurschick)	319 Culvert replacement	
Auburn	L/A Conservation Commission	Discuss land management plan & offer partnership	
Land Lab Trails	Open to public	Rehab of old Land Lab trails	
LPW	Androscoggin Valley Education Consortium	SW utility	





Lake Auburn Watershed Protection Commission

Feb 10, 2016

ORDER; Authorizing Commission Staff to implement and manage hunting and trapping permit procedures for lands owned by LAWPC.

Whereas, all activities on the LAWPC-owned properties must align with the primary goal of protecting water quality; and

Whereas, the Commission owns parcels of land surrounding Lake Auburn that have historically been used by the general public for hunting, fishing, and low-impact recreation; and

Whereas, the Commission desires to better understand uses of its properties; and

Whereas, the Commission desires to openly convey information to the public about
The LAWPC's mission, activities, finances, accomplishments, and decision-making
Processes; and

Whereas, The Commission seeks to engage neighbors, abutters, partners, and others in
advocacy activities in order to achieve their missions, and promote community
interests; and

Whereas, documentation of activities will lead to responsive and informed future decision-
making; and

Whereas, the LAWPC seeks to support existing state and local laws with respect to hunting,
trapping, and fishing, with the exception that the LAWPC lands abutting the "Closed
Area" shall be off limits to public access;

**Now, therefore, be it Ordered by the Lake Auburn Watershed Protection Commission that
Staff are Authorized to implement the Hunting/Trapping Permit process as
described in the attached forms.**

Lake Auburn Watershed Protection Commission (LAWPC)



Hunting Rules and Policies

LAWPC properties accommodate a wide variety of public uses including hiking, canoeing, cross country skiing, scientific research, and hunting. In order to create a safe and enjoyable environment for all visitors, we ask hunters to review and comply with our hunting program rules and policies. Failure to adhere to the rules results in suspension of hunting privileges, or citation by law enforcement.

Please be aware that lands on which the LAWPC holds a conservation easement are private property and LAWPC does not have the authority to grant permission to hunt on these lands. For a current and up to date list of permitted hunting conservation areas, contact LAWPC or see maps online at www.lakeauburnwater.org.

Hunting Rules & Regulations

1. Hunters must possess a valid ME hunting license and comply with all applicable ME hunting regulations at all times. Hunter must carry a current, signed **Landowner Courtesy Card** while hunting on any LAWPC property. These can be obtained at no cost from the LAWPC. (call 207-333-6665, dial 3, or email lrichard@awsd.org.)
2. Tree stands: Only non-damaging deer stands may be used. (Nails, screws, and anything that causes bark scarring is considered "damaging".) Stands must be removed no later than two weeks after the close of the season. If a stand is not removed, it may be removed by LAWPC staff, volunteers, or ME Warden Service officer. No stands shall be placed within 100 feet of a property boundary or defined trail system. LAWPC has no responsibility for lost or damaged stands left unattended. Please be considerate of other hunters and space stands appropriately.
3. No target shooting, practice, or gun ranges are permitted on LAWPC lands. Be sure of your target and shoot to make a clean kill; indiscriminant or wild shooting will not be tolerated.
4. Drinking alcohol or using controlled substances is not allowed on any LAWPC property or in any adjacent parking areas.

Tear and keep a copy of the rules and policies. Signature will be kept on file at LAWPC

I have read, understand, and will comply with the LAWPC rules and policies.

printed name

signature

date

5. Hunting is allowed on assigned LAWPC properties only. Not every LAWPC property is open for public hunting. You are responsible for knowing the boundary of the property in which you are hunting. You can obtain property maps online at www.lakeauburnwater.org or by contacting our office directly.
 - a. Open Hunting Area- Hunters are permitted to use any weapon available to them legally during the hunting season
 - b. Restricted Hunting Area –Hunter are permitted to hunt ONLY using only a Bow and arrow.
6. If an injured deer goes into another area, you may retrieve it only if you have acquired permission from the lawful owner.
7. Remember, by state Statute there is NO bodily contact allowed in Lake Auburn and in its major tributaries. This includes washing hands or deer parts. Please pack in your own water.
8. LAWPC asks that all users abide by the “Leave No Trace” land ethic. This includes no fires, camping, littering (including the use of plastic flagging), or dumping of waste on the property.
9. ATVS are not allowed. The use of wheeled vehicles is strictly prohibited on LAWPC properties. If you need to get a deer out of the woods, a deer carrier or sled may be used.
10. All other LAWPC property rules and regulations and local ordinances must be followed at all times by all hunters. We have the right to remove you by contacting local authorities if you are not following the specific property rules.
11. Be SEEN and be SAFE–wearing orange is smart. Please remember that you are sharing the woods with other recreation users, be courteous and smart. All ME game laws apply on LAWPC land. You can be approached and cited by a game warden on LAWPC land. Know your laws, visit http://www.maine.gov/ifw/hunting_trapping/laws/hunt_traplaws.htm for all regulations.

If you are willing to share your harvest information, an experience you had on the conservation area or have an idea on how we can make LAWPC land better, please contact us at any time. We want to hear from our property users.

Questions or comments may be referred to info@lakeauburnwater.org



LAKE AUBURN WATERSHED HUNTING AREAS

LEGEND

- WATERSHED LINE
- CONSERVATION EASEMENTS
- AWD LAND
- COMMISSION LAND
- LIFE ESTATES
- RESTRICTION ZONE



Date: 09/22/2016 Not To Scale

POWER LINE TRACT

EAST BASIN TRACT

MAPLE HILL RD TRACT

NORTH LAKE TRACT

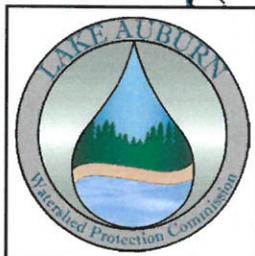
GRAVEL PIT TRACT

MARSH AND
SALMON PT TRACT

WHITMAN SPRING RD TRACT
(NO FIREARMS)

RESTRICTION ZONE

CLOSED AREA





Lake Auburn Watershed Protection Commission

Feb 10, 2016

ORDER; Authorizing Commission Staff to implement and manage snowmobile trail grooming permit procedures for lands owned by LAWPC.

Whereas, all activities on the LAWPC-owned properties must align with the primary goal of protecting water quality; and

Whereas, the Commission owns parcels of land surrounding Lake Auburn that have historically been used by the general public for snowmobile, cross-country skiing, snowshoeing, winter hiking, and low-impact recreation; and

Whereas, the Commission desires to better understand uses of its properties; and

Whereas, the Commission desires to openly convey information to the public about The LAWPC's mission, activities, finances, accomplishments, and decision-making Processes; and

Whereas, The Commission seeks to engage neighbors, abutters, partners, and others in advocacy activities in order to achieve their missions, and promote community interests; and

Whereas, documentation of activities will lead to responsive and informed future decision-making; and

Whereas, the LAWPC seeks to support and continue existing practices with respect to landowner permissions for snowmobile club use of trails on LAWPC properties;

Now, therefore, be it Ordered by the Lake Auburn Watershed Protection Commission that Staff are Authorized to implement the Snowmobile Trail Grooming Permit process as described in the attached forms.

SNOWMOBILE TRAIL MAINTENANCE PERMIT



THIS PERMIT, granted this _____ day of _____, 2015, by **Lake Auburn Watershed Protection Commission (LAWPC)**, Permittor, to the _____ Permittee, to groom and maintain on the hereinafter described land, one or more snowmobile routes. Said LAWPC, the property owner, grants this Permittee permission over and upon the following described premises for the period from date _____ to date _____, under the following conditions:

1. The said snowmobile route(s) shall be open to the general public for snowmobile uses without charge.
2. Designated route(s) shall be properly signed to direct snowmobile traffic on approved route(s). Only snowmobile route signage is allowed. (See signage guidance at http://www.maine.gov/dacf/parks/grants/snowmobile_grants/docs/trailsign_brochure.pdf) A sign plan, listing sign type and location will be provided by the Permittee in advance of the snowmobile season, and approved in writing by LAWPC prior to placement. Unauthorized signage will be removed and may be grounds for revoking permission.
3. The Permittor or its authorized representatives shall have the right to enter upon said snowmobile route(s) for any purpose at all times.
4. The Permit is for (a) _____ foot wide route(s) over the lands as depicted on the attached map.
5. This Permit DOES NOT allow the use of ALL-TERRAIN VEHICLES and/or WHEELED VEHICLES on the approved snowmobile route(s).
6. The Permittor shall have the right to revoke all or part of this Permit and to close one or more of said snowmobile routes upon written notice to the Permittee.

7. All rubbish, debris, and garbage of any nature or kind arising out of the use of the snowmobile route(s) shall be promptly picked up and disposed of properly by Permittee.
8. The Permittee agrees that no trees will be cut, except that Permittee may remove, with notice to the LAWPC, debris or downed trees which may obstruct the approved snowmobile route(s).
9. The Permittee agrees that the Permittor assumes NO LIABILITY for injuries and damages that may be suffered on said snowmobile route(s), whether in accordance with Title 14, M.R.S.A. section 159-A or otherwise; and Permittee further agrees to defend and hold Permittor harmless from any claim or liability arising from any such injury or damages.
10. The Permittee agrees to provide a copy of the liability insurance policy on the groomer used on the approved snowmobile route(s) on LAWPC property.
11. This Permit shall not give rise to any future claims of adverse possession and/or prescriptive use by Permittee(s) for the permitted snowmobile route(s).
12. Map and description of trail attached: Yes ___ No ___

_____ Date _____
 Agent for LAWPC Signature

_____ Date _____
 Club/Town & Club Representative Signature



Appendix

Page 8

Two City TIMES • June 2, 2016

Out & About with Rachel Morin

Recapping the Senior College Semester

Story and photos by

Rachel Morin

"Sr. College is the best thing that has happened to me in retirement" so say the majority of members enrolled at USM Lewiston Auburn Senior College. The roster lists close to 400 members and we are entering our 19th year this coming September. Members are not only from Lewiston and Auburn, but include many from surrounding towns, including Danville, Durham, Gray, Greene, Hebron, Lisbon, Mechanic Falls, Minot, Monmouth, New Gloucester, Oxford, Poland, Sabattus, Turner and Wayne.

The inspiration for this column came from my physical therapist who asked me, "What is this senior college that you are so active in?" I gave him a few highlights and then started thinking,



maybe others might be interested as well. We are an active group, with a Board of Directors, and members are involved in spring and fall semester classes, ongoing committees and volunteer work. We have special interest groups, Theater, Dine-around, Outdoor Adventures that meet regularly and Cross Country Skiing in the winter months. An Excursion group buses a large group annually to Ogunquit Summer Playhouse, trips to Boston theaters and art

museums and a boat ride in Lake Winnepesaukee. We have a monthly state newsletter connecting our 17 senior colleges state-wide with news of events and happenings. Photos and articles are submitted by each senior college to the USM Portland OLLJ-based newsletter. We also have a website: usm.maine.edu/seniorcollege. Annual Membership is \$25

based on the academic year, September 1 to August 31. Classes are \$25 each and are taught by volunteer instructors who teach for the love of teaching. Members look forward to receiving the glossy catalog twice yearly, outlining the courses for the spring and fall semesters. The curriculum is diverse with subjects including history, botany, literature, computers, genealogy, art, drama, dance, religion, languages, poetry, memoir writings, trees, mythology and cultures. There are also subjects that change every semester. Our spring semester classes filled quickly. The photos accompanying this column show only a small representation of each class. Not all spring semester classes are depicted.



Drama, seated: Rose Goodwin, Diane Clay, Gail Muriel, Kathy Bate; standing: June Spear, Grace Keene, Instructor Hugh Keene, Sharon McGilvery, Joanne Sabourin.

We have collaborations with the Lewiston and Auburn Public Libraries and Seniors Plus where we provide speakers free of charge and open to the public. Schorner Estates is another collaboration where we provide one or two instructors each semester to teach at their facility for residents who are Senior College members. These classes fill immediately.

A popular monthly event is our Food for Thought luncheons open to the public which feature prominent well-versed speakers who attract packed audi-

ences. Many times, these attendees join Senior College. Other interests on Campus include the Artium Art Gallery which presents a year-round schedule of exhibitions, the Franco-American Collection, one of the largest repositories of Franco-American archival material in the State of Maine and Cafe L-A, a friendly place to have snacks or lunch with classmates between classes.

An open invitation is extended to everyone. Criteria are simply to be 50 or older and have an interest in continued learning and enjoying the camaraderie of senior citizens with a like mind and similar interests. No homework, tests, exams are involved. If interested, please call 753-6610 and leave your name and number. Your call will be returned. Our colorful Logo says it all: "Forever Learning" and features the Mighty Androscoggin uniting Lewiston and Auburn.



Modern Vietnam I to V, Adriann Tucker, Flo Roberts, Paul Boucher, Instructor Dr. William Hix (Photo by Cynthia Peters)



Maine Trivia, Instructor Pam Davis Green with students Curtis and Judy Wilkes, Rachel Morin, Donald Farnum and Daniel Farnum. (Photo by Lydia Gilbert)

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Spirituality, 1 to 8, Robert Gardner, David Gardner, Georgette D'Amour, Instructor Marguerite Stapleton, Kathy Tuggeri, John Hoighins.



New England Folk Dance: The French Connection, held at Callahan Hall, Lewiston Public Library, front, 1 to 8, Karen Brooks, Winnie McMorrow; Barbara Jabaut, Lee Morin, Bonnie Ross, Lucy Blisson; back 1 to 8, Mora LePage, musicians Don Cunningham and Aya Wakita; Lorraine Giasson. (Photo by Instructor Cindy Larock)



Paper Art, Instructor Karen Brooks with Lydia Gilbert, left, and Leticia Morin.



Special Destinations, Claire Bilodeau, Claudette and Gerry Martel, Instructor Dot Raspert. Daisy the Cow at Pineland in New Gloucester managed a photo bomb. (Photos by Barbara Jabaut)



Food and Culture, Instructor Mark Silber, Polly Robinson, Richard Lee, Judy Hirvstein, Harriet and Bob MacGeeva.



Lake Auburn, Androscoggin County's Natural Timeline, Roger Martel, Suzanne Roy, Instructor Lynne Richard, Instructor Paula Everett, Linda Morton, Margaret Bellis.



Cook and Roman Mythology, seated, Winnie McMorrow, Gloria Hall, Rose Goodwin, Maggie Chubburn; standing, Instructor Alan Eke, Paul Robinson.



Genealogy, Robert Peltier, Jeff Johannes, Instructor Lisa Wright, Mary Jane Boardley.



American Indians, 1 to 8, Carol Seward, Instructor Dr. Steve Piker, Carol Hunscombe, Albert Richard (Photo by Cynthia Peters)



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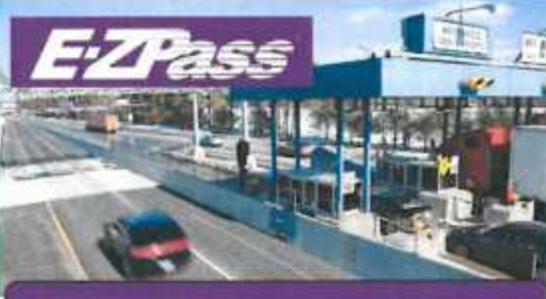
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DARYN SLOVER/SUN JOURNAL

Autumn Chapman, lower left, Abigail Carney, back left, Brooke Bruneau, with shovel, and Macy Bubar, right, plant a blueberry bush at the Lake Auburn Water Treatment Facility in Auburn on Friday. The four Edward Little High School freshmen helped plant a vegetation buffer that will help protect the lake, said Lynne Richard, education outreach manager for the Lake Auburn Watershed Protection Commission. The entire student body spread out across the area to work on projects during "EL Gives," the school's community service day, said biology teacher Brandy McFadden. About 30 shrubs and bushes native to Maine were planted at the treatment facility. The roots will help stabilize the soil.

Hebron students release trout



ANDREE KEHNSUN JOURNAL

Hebron Station School students Caroline Sheets and Nevaeh Toothaker test the chemistry of the water between the North Auburn Dam and Lake Auburn on Thursday before releasing baby brook trout they watched grow from eggs. Lydia Eusden's fifth-grade science, technology, engineering and math class released the fish under the supervision of Lynne Richard, education and outreach manager for the Lake Auburn Watershed Protection Commission.

A series of articles covering the lead in drinking water issue beginning in December 2015 from sources other than the Sun Journal

- MPBN - By Patty Wight Dec. 1, 2015 *Elevated Lead Found in Auburn Drinking Water*
- Bangor Daily News - Posted Dec. 02, 2015, at 7:14 a.m. *Lead found in Auburn drinking water tied to old plumbing*
- WCSH Associated Press and news source – December 3, 2015 *Testing finds high lead levels in Auburn household water*
- USA Today – Patricia Borns March 16, 2016 *In Maine, lead test results prompt some worries, shrugs*
- Lexology – May 2016 *Lead Paint and Drinking Water in Maine - Now Under Even More Scrutiny*

Maine News Online

Lewiston-Auburn officials hire engineers to study water lead levels

Submitted by Tanya Campbell on Wed, 03/09/2016 - 09:36
<http://mainenewsonline.com/content/16037462-lewiston-auburn-officials-hire-engineers-study-water-lead>

Lewiston and Auburn officials have confirmed that they have hired engineers to study what the twin cities can do to keep contaminants like lead out of the drinking water.

Levels of lead found in drinking water last year were much higher than the prescribed limits. Officials also discovered that lead found in the water does not come from the lake; rather it comes from the pipes inside the house.

Sid Hazelton, superintendent for Auburn Water District, said his district and the Lewiston Water Department hired engineers to study the matter and make suggestions. Hazelton added that lead in drinking water might be occurring inside the house, wherever plumbers sealed joints together using leaded solder.

Speaking on the issue, Hazelton said, "Any lead people are seeing in their water does not come from the lake ... Any lead that they find is most likely inside people's plumbing. Usually, it occurs inside the house, wherever plumbers might have sealed joints together with leaded solder. That's where the lead is coming from."

Lewiston Water Department Superintendent Kevin Gagné said the engineers will look for levels of acidity and alkaline in the water supply and review how the utilities handle the issues of pipe corrosion.

As per the Federal Environmental Protection Agency mandates, the level of lead in household water should not exceed 15 parts per billion. Auburn's lead level jumped from 9 parts per billion in 2012 to 23 parts per billion in 2015.

Lewiston-Auburn Sun Journal

Fishing season comes early

MARK LAFLAMME, Staff Writer

Wednesday, March 16, 2016 at 8:12 pm

Excerpt:

The Department of Inland Fisheries and Wildlife has announced that open water fishing will open Thursday — two weeks ahead of schedule — sending a shiver of excitement through the angling community.

"We've gotten a little boost from this," said Bragdon, who is also a sales associate at Dag's Bait and Sporting Goods in Auburn. "We've had phone calls and people are coming in a little more steady than they were a couple of days ago."

As buzz got underway Wednesday, there were also rumors that fishing wouldn't be permitted on Lake Auburn because the ice is not out. The rumors proved to be erroneous, according to DIFW Spokesman Mark Latti. Fishing from the shore of Lake Auburn will be allowed — ice or no ice, he said.

Lewiston-Auburn Sun Journal

Smelt fishing catches big in early 1900s

Lewiston-Auburn |

Monday, March 21, 2016 at 11:20 pm

Excerpt:

“There’s only one time that you can catch smelts by the basketful, and that’s when they’re running,” the story said. “And they never run more than three nights in a year.”

Lapham Brook, which empties into Taylor Pond in Auburn, had been called the mecca for smelt fishermen, but Sabbathday Lake in New Gloucester was another favorite spot.

Townsend Brook, which is a tributary to Lake Auburn at North Auburn, also attracted smelt fishermen, and that stream had a high yield in late April of 1900.

“The last run of smelts there was on Saturday night,” the newspaper story said. “The night’s catch has been set as high as forty bushels. Phin Clough, the man who never told a lie, says that the night’s catch was twenty bushels, and we let it go at that.”

Lewiston-Auburn Sun Journal

New Gloucester public water within lead limits, official says

Ellie Fellers, Special to the Sun Journal

Thursday, May 5, 2016 at 8:20 pm

NEW GLOUCESTER —

Excerpt:

...He said the pH level of the district's water is acidic and when water moves through the system, it creates an imbalance chemically. Lead can dissolve into water from lead solder and brass faucets, fittings and valves, he said.

The higher-than-allowed lead levels are likely a result of old brass plumbing fixtures or old lead-based solder during the collection of the samples, former Board of Trustees Chairman Steven Johnson said.

An email from Darren Brann, compliance officer for the Maine Drinking Water Program, to Michael Broadbent of the Auburn Water District, which runs the New Gloucester Water District station, said all 10 sites passed tests for lead and copper samples in June and September 2015.

"Because New Gloucester is now back in compliance with lead and copper, (the Auburn Water District) will no longer need to collect water quality parameter samples on a quarterly basis within the distribution or post treatment," Brann wrote.

Maine News Online

Lewiston-Auburn officials hire engineers to study water lead levels

Submitted by Tanya Campbell on Wed, 03/09/2016 - 09:36
<http://mainenewsonline.com/content/16037462-lewiston-auburn-officials-hire-engineers-study-water-lead>

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drinking water might be occurring inside the house, wherever plumbers sealed joints together using leaded solder.

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Lewiston-Auburn

Auburn testing finds lead in household plumbing



SCOTT TAYLOR, Staff Writer

[Lewiston-Auburn](#) | Monday, November 30, 2015 at 2:20 pm

AUBURN — Higher than expected lead levels in some household plumbing around the city requires water district officials to conduct more testing.

Routine testing of Auburn's household water showed a spike of 23 parts per billion in levels of lead in some household plumbing fixtures. The acceptable level of lead in household water is 15 parts per billion or less, according to federal Environmental Protection Agency mandates.

"It's the only rule that requires us to test for things that are entirely out of our control," said Mary Jane Dillingham, water quality manager for the Lewiston-Auburn Water Pollution Control Authority. "We are not in control of what people do in their homes for plumbing."

Dillingham said Auburn is required to test water quality in 30 homes every three years for lead and copper levels. Auburn's reported lead level in 2012 was nine parts per billion.

Auburn's copper level, which can be a sign of corrosion in household plumbing, was well below federal thresholds in 2012 and again this year.

According to EPA rules, this year's high lead score triggers more extensive testing. The water district needs to collect one-liter samples from 60 preselected Auburn homes once between January and June 2016 and again between July 2016 and January 2017.

That accelerated testing schedule continues until the lead level drops below the 15 parts per billion threshold.

Water District Superintendent Sid Hazelton said the district is mailing a notification to all 6,800 Auburn Water District customers and advertising an EPA notification.

Dillingham said she wants to create a Web page with information about lead testing, the results and to coordinate the next round of tests.

Dillingham said lead levels can be highest in older homes with all-metal plumbing. The testing specifically looks for homes built before 1987, when the use of lead-based plumbing solder was mostly discontinued.

According to [Plumbing Manufacturer International](#), an industry group, almost all homes built in the 1980s or earlier have copper tube plumbing connected with lead solder.

Dillingham said one woman submitted a test supply that showed a big spike in lead.

"I asked her if she'd done any work on her plumbing and she said 'Yes! My husband put in a new faucet'," Dillingham said. "He'd used some old solder he had kicking around, and it showed up in the test. And they had to undo everything to get their lead levels back down."

Dillingham recommended never using old solder, using plastic pipes when possible and purchasing certified lead-free faucets and fixtures. New faucets can still contain levels of lead in the brass fittings unless they are specifically labeled as certified lead-free.

"A lot of new faucets are built lead-free because there is a market for it," she said. "My certified lead-free faucet was a lot of money, but it had the certification."

Lead can build up in the body over time, causing physical and mental impairment. It's most serious in children's developing nervous systems.

Dillingham said the water district adds a blended phosphate to the water supply that's designed to stop lead corrosion in household plumbing.

"It's not a coating that builds up, but it has to maintain," she said. "It needs a flow of water through the pipe to be effective."

Homes with metal plumbing are most at risk, she said, but that does not mean those homes have high levels of lead. Homeowners can pay to have their water tested.

Filters can help as long as they are at the tap, are designed to remove lead and are changed regularly.

She recommended people let the tap run for a few seconds before drinking water, especially in the mornings after the water supply has sat in the pipes undisturbed for several hours. Running the tap allows the lead-coating phosphate to reach the tap.

staylor@sunjournal.com

[Auburn Water District Lead Testing 2015](#)

Lewiston-Auburn

Lake Auburn soil coring to look for fish-kill pattern



SCOTT TAYLOR, Staff Writer

Lewiston-Auburn | Friday, February 12, 2016 at 5:56 pm

AUBURN — Researchers may drill into the soil beneath Lake Auburn to find out whether a 2012 trout-killing algae bloom was part of a pattern.

University of Maine earth sciences professor Steven Norton hopes to drill out a core of soil at Lake Auburn's deepest point this winter, Auburn Water District Superintendent Sid Hazelton said.

"We've learned a lot, and the lake has been very good and clear, by historical standards, since (2012)," Hazelton said. "But now we want to look for trends to figure out if 2012 was an anomaly, or if it's something that's happened again and again for years."

Previous core sample have been no more than 30 centimeters deep, Hazelton said. That's almost a foot. Future cores would go about three times deeper, he said.

"We did some basic core samples around the lake, but none of them have gone very deep," he said. "What we are looking at now is a second phase, really getting down deeper into the lake."

The Lake Auburn Watershed Protection Commission voted Wednesday to move forward with the second phase.

Water quality officials discovered more than 200 dead trout along the shore or floating close to the shore in mid-September 2012. They blamed the kill on high phosphorus levels in the lake.

Phosphorus in the water encourages algae to grow, using up available oxygen in the water and suffocating fish. The effect is especially notable in the cooler water at the bottom of the lake, where trout like to be in the hot summers.

According to a commission study, heavy rains in 2012 and warm weather later in the year made the algae bloom worse. The study noted that rainfall in 2013 was about 8 inches below the seasonal average, and that the fish-killing algae bloom did not return.

The study outlined about 35 places around Lake Auburn and its feeder tributaries that could be improved to keep soil from eroding and polluting the water.

The district received state and local approval to use copper sulfate to interrupt algae blooms if they occur again, but that has not been necessary, Hazelton said.

Norton's testing could show whether excess phosphorus came from the watershed or from some other source.

"There are a number of things we can do to help keep it from happening," Hazelton said. "We can do erosion control along the watershed and stay vigilant and make sure we control what gets in from the watershed."

Hazelton said the work should cost less than \$25,000. The researchers would prefer to do the drilling when the lake's ice is strong enough to support their drilling equipment.

"The cost and complexity of doing all this on open water is very different," Hazelton said Friday. "We just hope their preparations can coincide with the conditions of the ice on the lake."

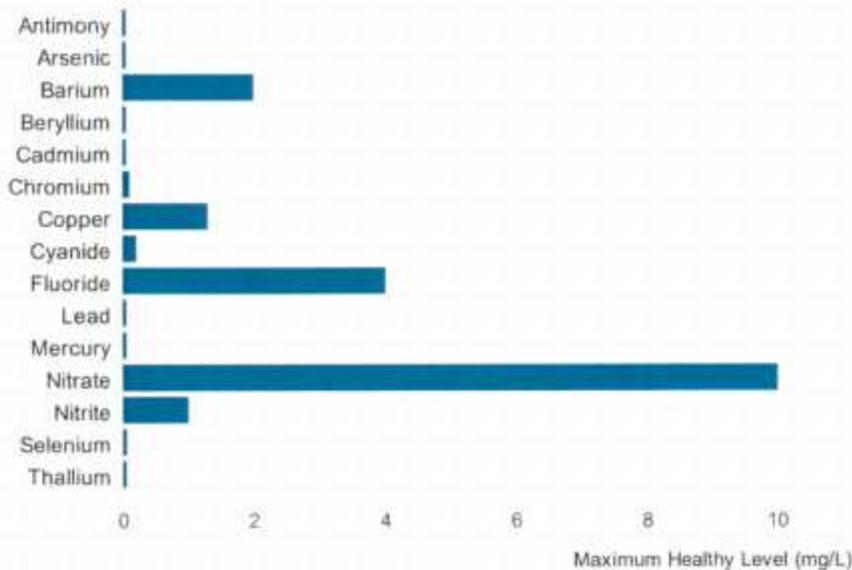
But Norton said Saturday that the testing will likely wait until May because of the forecasted conditions of the ice. Researchers will use a raft on the lake to steady the drill if do the work then, Norton said.

staylor@sunjournal.com

Lewiston-Auburn

Lewiston, Auburn take steps to keep lead out of water

Maximum Healthy Levels of Chemicals in Drinking Water 



Source: [Environmental Protection Agency](#).
 The maximum healthy level is equivalent to the Maximum Contaminant Level Goal (MCLG). MCLG is defined as the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.

[See more details](#)



[Maximum Healthy Levels of Chemicals in Drinking Water | HealthGrove](#)



SCOTT TAYLOR, Staff Writer

Lewiston-Auburn | Tuesday, March 8, 2016 at 1:41 pm

AUBURN — Last year's bump in lead levels in drinking water has prompted Twin Cities officials to take a second look at what they do to cut back on water pipe corrosion.

Auburn Water District Superintendent Sid Hazelton said his district and the Lewiston Water Department have hired engineers to study what they do to keep lead and other contaminants out of the drinking water supply.

"Any lead people are seeing in their water does not come from the lake. It does not come from the pipes in the street," Hazelton said. "Any lead that they find is most likely inside people's plumbing. Usually, it occurs inside the house, wherever plumbers might have sealed joints together with leaded solder. That's where the lead is coming from."

Hazelton and Kevin Gagne, Lewiston's Water Department superintendent, met with representatives from Topsham's Wright Pierce Engineers on Tuesday to discuss the study.

Gagne said the engineers will review how the utilities handle pipe corrosion issues, looking for acidity and alkaline levels in the water supply. More corrosive water can leach lead or copper into the water supply from the plumbing.

"Really, they are looking at how corrosive our water is and that effect on a customer's old plumbing," Gagne said.

All water utilities are required to test 30 homes for lead and copper levels every three years. The acceptable level of lead in household water is 15 parts per billion or less, according to Federal Environmental Protection Agency mandates.

Auburn's reported lead level in 2012 was 9 parts per billion but had increased to 23 parts per billion in 2015. That increase triggered more vigorous testing; Auburn has to test 60 homes in its system every six months until lead levels drop consistently below 15 parts per billion.

Lewiston is scheduled to test its system in 2017 as part of the three-year requirement.

Hazelton said he's confident there is no lead in the utility-controlled water supplies in either city, including everything from Lake Auburn to the shut-off box at most addresses.

Hazelton said most privately owned pipes connecting household water service in Lewiston-Auburn to the shut-off boxes are copper, galvanized steel or plastic — not lead.

"It's extremely rare to hear of lead used for that kind of service pipe," he said. "I can't say they didn't, but it's not common. We don't have records of people's private plumbing, and if someone did put in a lead pipe they would be at risk. But that is not something that is commonly done in Maine."

Most of Lewiston-Auburn's lead contamination begins indoors, Hazelton said. Both cities have added phosphate to the drinking water supply that has helped cut down on pipe corrosion since the mid-1990s.

"So we have the engineers looking at each system to see what the makeup of the distribution system is and our historical water samples," Gagne said.

"Then, they'll look at our treatment to optimize what we do. Our corrosion

operations could be exactly where we need them to be and the problem could be entirely in a customer's home. Or, there could be things we need to modify and do differently in our treatment. We want to know if that's the case."

Gagne said he expects the engineer's report to be finished in May.

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March winds blow out Lake Auburn ice



Water and slush fly into the air after coating onto rocks on the shore of Lake Auburn on Friday afternoon. With only a little ice crumpling around the shore by the Route 4 turnout, the majority of the lake is ice-free, leading to the earliest declaration of "ice-out" on record.

[See a story](#)



[SCOTT TAYLOR](#), Staff Writer



[SCOTT TAYLOR](#), Staff Writer

[Lewiston-Auburn](#) | Saturday, March 19, 2016

AUBURN — Lake Auburn's ice sheet has been especially thin this winter, so it only took a windy March day to melt it for good.

Auburn Water District officials declared the lake officially iced out as of 1 p.m. Friday.

"There is a little bit of ice left in the north end and a little in the west end," said Mary Jane Dillingham, water quality manager for the Twin Cities' water utilities. "But 90 to 95 percent of all of the ice is off of Lake Auburn."

It's a record for the earliest the lake has iced out since record-keeping began in 1836. Lake Auburn has only been considered ice-free four times in March: March 31 in 2006, March 23 in 2012 and March 22 in 2010.

"It is the earliest ice-out we've recorded," Dillingham said.

She said an early ice-out was expected after the mild winter.

"It has been unusually warm all winter, and it led to a very thin layer of ice all winter long on Lake Auburn," she said. "It wasn't safe enough for us to get out and do our typical winter water sampling and the area around the deep hole was open for most of the winter."

Dillingham said there was a thin layer of ice still clinging to about one-third of the lake Friday morning.

"But the wind picked up and it just took it out," she said. "It pushes it a little but it really accelerates the melting process."

It means the lake is now open to boats, and the automated gates to the boat launch were turned on Friday afternoon. The gates will open daily at 4 a.m. and close at 9 p.m. until next winter, she said.

According to Dillingham's records, Lake Auburn's ice usually disappears in April, with ice-out occurring in that month 141 times in the past 180 years. The latest the ice has melted was May 14 in 1874.

The National Weather Service in Gray reported ice-out at Lake Winnepesaukee in New Hampshire on Friday, as well.

staylor@sunjournal.com

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Lake Auburn milfoil battle moves out of The Basin



ANDR

Field Peterson, an intern to Water Quality Manager Mary Jane Dillingham at District, moves rolls of geotextile mats which are being secured underwater of invasive milfoil vegetation in Lake Auburn.

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SCOTT TAYLOR, Staff Writer

[Lewiston-Auburn](#) | Thursday, June 30, 2016 at 8:25 pm



[Lewiston-Auburn](#) | Thursday, June 30, 2016 at 8:25 pm

AUBURN — Efforts to keep milfoil out of Lake Auburn continue this summer as watershed officials place more light-blocking mats underwater downstream from The Basin.

Water Quality Manager Mary Jane Dillingham of the Auburn Water District said the mats are marked with neon buoys and a sign that explains what's happening.

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"We have not, in the past, done any work with milfoil there, but this year, we've gone in and attacked it," she said.

Water quality officials in Maine are on constant watch for nonnative plants, and especially for the variable leaf milfoil. The nuisance plant is perfectly suited for life in Maine's ponds because nothing natural in Maine can keep it in check, Dillingham said.

"What the invasive plants do is just take over and push out the native plants," she said. "The consequence is destruction of fish habitat and a potential impact on water quality. It severely impacts biodiversity."

One solution is to blot out the sun from the lake bottom. Water quality officials have used a synthetic fabric, called a benthic barrier, across parts of the floor of The Basin at the north end of the lake since 2002, hoping to starve the plants of sunlight and stop the spread before it reaches Lake Auburn.

This year, they are moving downstream from The Basin's dam. The barriers will remain for at least 60 days to make the stream bottom unavailable to milfoil fragments.

"We've gone in and attacked it basically by diving in and doing some hand-pulling and then putting these geotextile mats, weighed down by rebar," she said.

The plant has long, skinny tendrils that tend to come apart easily. Any part of the plant can break off, float away and establish a new stand where it lands.

Water quality officials suspect the plant is spread from lake to lake in Maine via the bottoms of recreation boats and fishing equipment. Motorized boats are not allowed in The Basin because of the risk of spreading the plant.

staylor@sunjournal.com

Students Investigate Water Quality at AVEC Androscoggin River Day

By Brandy McFadden, Edward Little High School

On a chilly October morning nearly thirty students from Edward Little, Lewiston, Lisbon, Oak Hill and Leavitt High schools arrived at the Durham Boat launch for some hands on investigation of water quality. Five stations were set up where groups of 5 to 8 students would spend 20 to 25 minutes before moving on to the next station. Station one, biotic/abiotic factors and invasive species inventory, had students walking the river bank looking at both living things and nonliving things including trash and manmade impacts. Station two, pH, Temperature and Conductivity, involved more discussion of how these factors affect the water environment and what pH and conductivity measure and how all three factors interact. Station three, Turbidity riparian zone and invasive plant survey, had students collect river water and measure turbidity as well as observe the percent of plant cover along the river bank and look at the angle of the river bank. Station four, dissolved oxygen, used a D.O. titration procedure to show students how laboratory procedures are done while the impact of dissolved oxygen on the water biosphere was discussed. Station five, macroinvertebrates, students investigated the contents of bags spiked with leaves and other debris that had been placed in the river two weeks prior to the river day. Students were

required to group the organisms found into "good" (mayfly larvae, caddisfly larvae, stone fly larvae and gilled snails) "fair" (crayfish, beetles dragonfly larvae, crane fly larvae, damselfly larvae and scuds) and "poor" (Midge fly larvae, black fly larvae, leeches, aquatic worms, and lung snails). After recording and categorizing the bags, students had a little time to see what macroinvertebrates they could find along the river bank. Brandy McFadden, Jeff Stern, Paula Drouin, Mac Richardson, Lynne Richard, and Deb Charest helped run stations and facilitated discussions with the

students. AVEC is an enrichment program for select high school students in Androscoggin Valley High Schools that focuses on 4 core areas: Math/Science, Contemporary Issues, Arts and Creative Writing. The Math/Science AVEC has a different project focus each year, the 2015-2016 course will focus on Stormwater and Non-point Source Pollution. The goal of this course is to engage students in learning about the importance of stormwater management and mitigation as well as to have students produce an educational product to distribute during their last meeting.



Students work at hands on measurement of Androscoggin River Water turbidity.



Lynne Richard from the Lake Auburn Watershed Protection Commission and Deb Charest from the Androscoggin Land Trust explain the role of macroinvertebrates to students.



Watershed Map, with parcels owned or under easement by LAWPC

