

# Alliance of Pigeon Lake Municipalities & Pigeon Lake Watershed Association

## 2017 Winter Newsletter

The year was very busy and productive for the Alliance of Pigeon Lake Municipalities ([www.aplm.org](http://www.aplm.org)) and the Pigeon Lake Watershed Association ([www.plwa.ca](http://www.plwa.ca)) working collaboratively for the health of the watershed, the lake and our community. A major accomplishment has been the preparation of a final draft of the Pigeon Lake Watershed Management Plan (the “Plan”). As you will see from the newsletter, the Plan coordinates a whole set of actions.

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### 1) The Pigeon Lake Watershed Management Plan Moving Forward – Plan Adoption & Endorsements

The PLWMP Committee Chair Bob Gibbs and Vice-Chair Don Davidson are visiting each Summer Village Council and County Councils to review the Plan, answer questions and ask for Council adoption.



In addition to the municipalities, plan endorsements have been requested from several organizations including the Alliance of Pigeon Lake Municipalities, the Pigeon Lake Watershed Association, Battle River Watershed Alliance (BRWA), Alberta Lake Management Society (ALMS) and the Wizard Lake Stewardship Group. So far, the responses have been very positive and there have been few recommendations for revised wording.

The Plan Steering Committee continues to reach out to other groups to ensure that the Plan’s purpose and recommended actions are appropriate and understood. Such groups include the four Maskwacis Cree Nations (formerly Hobbema) and the Pigeon Lake Reserve; the Pigeon Lake Chamber of Commerce; and the farm operators. The Plan is currently at a final-draft stage and remains open to input. Meanwhile, an implementation plan has been developed with priorities for moving forward.

Find the latest version of the Plan on the recently updated [www.plwmp.ca](http://www.plwmp.ca) website.



For more information:

[www.aplm.org](http://www.aplm.org)

[www.plwmp.ca](http://www.plwmp.ca)

[www.plwa.ca](http://www.plwa.ca)

## 2) Aquatic Invasive Species (AIS) Update - Good News ...



### **No invasive mussels, plants or fish were found in Pigeon Lake in 2017! Yay!**

None were detected via the PLWA monitoring, nor through the LakeWatch water quality and invasive-species monitoring program. We thank the AIS volunteers and the Alberta Lake Management Society!

However, we learned that we all need to be more vigilant about keeping the Aquatic Invasive Species (AIS) information and best practices in front of the local residents. The PLWA summer staff asked some questions when they were giving out information at the Mulhurst boat launch. Of the people asked, 38% had never heard of AIS or the CLEAN – DRAIN – DRY program. Most (87%) of these people were part-time, seasonal or full-time residents from around the lake. How is your knowledge on invasive species? Do you know why the contents of an aquarium must never be thrown into the lake or how long do zebra mussels last outside water? Check your knowledge at <http://aep.alberta.ca/fish-wildlife/invasive-species/aquatic-invasive-species/default.aspx>.

This AIS work is part of the Pigeon Lake Watershed Management Plan's (PLWMP) recommendations to complement the Government of Alberta's province-wide efforts to stop the spread of very undesirable invasive species that could get transported to Alberta Lakes on boats and fishing gear. We increase the local defences with monitoring, public education, signage, and other initiatives.



## 3) South Pigeon Lake Wastewater Project Update

Considerable progress has been made this past summer on the south Pigeon Lake wastewater project. The local collection lines have been, or are in the process of being, installed in all six participating municipalities. Viola Beach and Norris Beach have been connected to the Regional Wastewater System, and their local systems are now functional. Local line construction is currently underway in Ma-Me-O Beach, Crystal Springs, Grandview and Poplar Bay with residential connections being planned for 2018. In addition to this work, Phase 2 of the Regional Line (the line from the Village at Pigeon Lake to the west side of the lake) will be constructed next year. The south side of Pigeon Lake will soon have a fully functioning wastewater system.

Read more in the [County of Wetaskiwin Wastewater Bulletin - October 2017](https://www.county.wetaskiwin.ab.ca/DocumentCenter/View/1767)  
<https://www.county.wetaskiwin.ab.ca/DocumentCenter/View/1767>

To meet the Plan objective of protecting the groundwater that feeds into Pigeon Lake, one recommendation is to support the extension of a regional wastewater system to north-west lakeside communities including the two Pigeon Lake Provincial Park campsites.



## 4) Recommendation to Remove Septic Fields

Septic fields have long been identified as an important source of phosphorus loading into water bodies and a major cause of lake eutrophication. Septic field effluent is known to have a high concentration of phosphorus that is readily available to algae and aquatic plants.



To reduce the phosphorus entering the lake, the Plan recommends a program to eliminate septic fields in the 800-metre zone around the lake. Septic fields have a limited life before the leaching field becomes saturated. Periodically, a high water table can flood the field and carry phosphorus to the lake. The few remaining residents who have not replaced their septic fields should consider either converting their septic tank to a holding tank by plugging off the outlet or replacing it with a new, larger-sized holding tank. Working together, we can all do our part in protecting our lake. Eliminating septic fields will go a long way toward reducing the readily available type of phosphorus that gets to the lake from wastewater.

FYI – Two 2018 **Septic Sense Workshops** are being held on septic field maintenance. To register for either, contact Heather Dickau at 780-770-9271

- April 5: Leduc County. Starts at 6 p.m. at the Clover Lawn Community Centre, 48203— RR 233
- March 8: County of Wetaskiwin. Starts at 6 p.m. at the Falun Community Hall, 272019 HWY 13, Falun

## 5) Clean-Runoff Update – The Clean-Runoff Survey Highlights

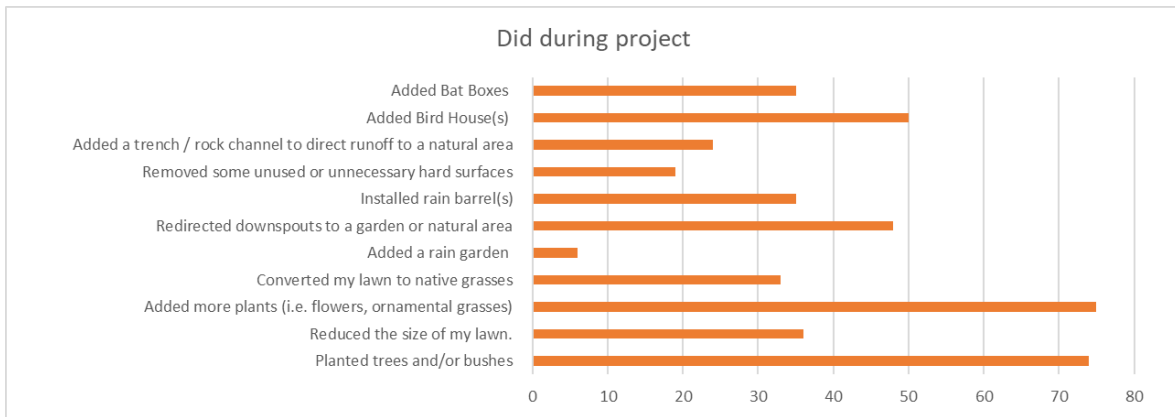
A major initiative was undertaken starting in 2015 to improve drainage practices around the lake to reduce the pollutants, including nutrients, going into the lake.

There were many parts of the project: Work was done to inform and show people how to make a few changes on their properties, an Alberta Clean-Runoff Action Guide was produced, a Clean Runoff Workshop was run, as well as demonstration sites were installed.



A fall survey was conducted to learn how well people are informed about Clean Runoff, what changes are being made and for the 2018 Clean Runoff Program. We thank the 336 people who completed the 2017 Clean-Runoff Survey on behalf of at least 751 people. The responses show that clean runoff around Pigeon Lake is happening!

- When asked if they had used the Action Guide, 'Evaluate Your Site' section: 33% responded, "Yes, I evaluated my lot and got ideas for what I need to do." Another 26% responded, "I read the section, understand the concepts, but did not do the calculations."
- Over 200 people stated that they are talking about the importance of clean runoff and the approaches that "we can do" with their neighbours.
- Responders reported making 350 Clean-Runoff changes during the CR Project and they are planning on making another 375 changes! The planned changes include reduction in lawn size; conversions to slower growing, drought-resistant native grasses with deep roots; and construction of 65 rain gardens as recommended in the AB Clean-Runoff Guide. This is fabulous!



Hoping for more changes? Keep in mind, most likely, not everyone who made changes did the survey and a lot of the people doing the survey indicated that they had already made many changes before the project. In fact, 637 changes were reported to have been done in the prior years. The Living by Water Consultations Program had been run since 2008 with 318 consultations at Pigeon Lake.

The survey shows that there is a lot of commitment towards having a healthy lake. As more of us talk about these changes positively and as more people make changes, others will realize that this is simply how we must live by water.

We appreciate that many survey responders expressed appreciation for the CR Project and for all the efforts being made for the lake, and lots of people offered to help! They will be contacted in the spring. We will prepare a further report, with a bit more information, as soon as we can.

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The deep caring and commitment for Pigeon Lake was illuminated by the actions, intentions and thoughtful comments stated in the survey, along with much good advice!

On behalf of the PLWA Board and PLWMP Committee, thank you!

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## 6) Shoreline Health Improvements

A three-pronged strategy is underway to improve the health of the Pigeon Lake shorelines and tributaries. Shorelines are the last opportunity to clean pollutants from runoff before it reaches the lake. Unhealthy shorelines are subject to erosion. Shorelines are important for 80% of everything that lives in the watershed and the lake, and this health impacts the water quality.



**1. Shoreline / Riparian Assessment:** The provincial Environment and Parks department has now confirmed that for planning and monitoring purposes, they will be doing high-level assessments of the shorelines and tributaries at a few lakes, including Pigeon Lake. This work will give the PLWMP committee invaluable information to target areas for restoration and enable us to benchmark and measure our collective progress as we work to enhance the health of Pigeon Lake's shoreline.

**2. Shoreline Recommendations for lakefront lot owners:** The Land Stewardship Centre (LSC) and Nature Alberta have a new Love the Lake Program, which focuses on the shoreline and upland area. It was piloted at Wabamun Lake in 2017 through the efforts of the Wabamun Watershed Management Council, Nature Alberta, Watersheds Canada, the Canadian Wildlife Federation and several enthusiastic volunteers.

Trained LSC staff assess each shoreline property, and every lot owner receives a confidential report containing recommended actions and specific information to protect or restore their shoreline.

A grant application has been made, and everyone is waiting to hear whether that will be successful so that we can have our own Pigeon Lake pilot project. We are also pursuing resources to help support lot owners implementing the recommended changes.

**3. Shoreline Restoration:** Depending on grants and municipal support, a few more shoreline lot owners with highly impacted shorelines will be invited to participate in the restoration of their shoreline. The first pilot project happened in 2016, at Johnsonia Beach. Through their good will and shared concern for the health of the lake, the wonderful Maguire family and a team have a shoreline restoration project underway. Read about it in the [Johnsonia Shoreline Pilot Overview](#). The objectives of this pilot are to create and document a demonstration site that:

- a) Restores this shoreline to be a healthy and functional riparian area that also maintains recreational access and key features that ensure enjoyment by the homeowners.
- b) Shows, for education purposes, how this pilot site is being restored so that more shoreline residents learn what a healthy shoreline is and how they can help the lake.
- c) Determines which of three types of willows will grow best in the sandy near-lake soil.

The first open house was held in August, with our healthy shoreline partners, Cows and Fish. They explained the project, provided shoreline health information and talked about how others can start to improve their shoreline health. There will be another open house in 2018.

## 7) Municipal Initiatives

The Alliance of Pigeon Lake Municipalities and individual municipalities have an important ongoing role in the implementation of the Pigeon Lake Watershed Management Plan. A recent poll of the municipalities shows that considerable progress has already been made. Changes made in Land Use Bylaws by some municipalities will provide additional protection from improper development in that critical area of the watershed, the riparian area. Tree planting, riparian-area restoration and the removal of noxious weeds are just a few of the projects sponsored by municipalities. To be successful, the involvement of all residents is a fundamental requirement. Help your municipality to succeed in achieving the goals of the PLWMP by becoming involved in a stewardship project in your municipality.

## 8) Studies on In-lake Remediation are Continuing

Investigations are continuing to find a possible means of reducing phosphorus loading through both the removal of phosphorus by harvesting algae and by inactivation of phosphorus by chemical additions. Chemical treatments have proven to be a successful strategy for treating small lakes, but the size of Pigeon Lake presents a challenge for cost-effective and environmentally sensitive solutions. Updates on these projects will be provided when the information becomes available.



Research is also continuing on factors affecting water quality in Pigeon Lake. Many municipalities have provided financial support for further research at the University of Alberta conducted by Dr. Vinebrooke. His work this year is on a model for determining the causes of harmful algae blooms. The historical data on algae populations will be related to climatic conditions in an attempt to obtain an empirical relationship for determining the factors affecting algae growth. This work should be completed in early 2018.

## 9) Request for Historical Lake Ice Information

This year, Pigeon Lake become ice free on May 11 and froze over on November 7. A comparison of data for previous years shows an increasing number of ice-free days as shown in the graph below. The apparent increase in the length of the open water season may have an effect on water quality. The PLWMP Steering Committee is compiling this historical information to assess any effect of the changing weather trends on the open-water season and water quality.



To date, we have collections of ice on/off data from three families around the lake. If you have recorded freeze-up and break-up dates, particularly prior of the year 1990, please forward them to [plwmpinfo@gmail.com](mailto:plwmpinfo@gmail.com). Multiple data sets will assist in validating the record. Thank you!

