



Wizard Lake Watershed & Lake Stewardship Association

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Newsletter #15

Fall 2011

CHAIR'S MESSAGE



Laverne Faulkner, Board Chair

This seems like the time of year to take a deep breath, reflect on the summer, and make plans for winter. The beautiful fall weather we're enjoying almost makes up for the rainy start to the summer. . .almost.

Of course the big news this summer at Wizard Lake was Alberta Health Services (AHS) posting a warning about blue-green algae (Cyanobacteria) at the lake. That warning advised swimmers to stay away from blue green algae blooms, which most Alberta lakes experience during the summer. Unfortunately the advisory on their website advised people to "avoid contact with the water." Confusing to say the least. The Wizard Lake Watershed and Stewardship Association board of directors had Alberta Environment and AHS experts come to a board meeting to help us understand the situation. It was so informative that we decided to expand the agenda at our Annual General Meeting (AGM) to include presentations on blue-green algae and AHS's beach monitoring program. Everyone who attended came away with lots of good information, better equipped to make informed lake recreation decisions. Although the true value of the presentations is in the text and discussion, the slides from these presentations are posted on our website www.stewardsweb.com/wizardlake. Also, look for AHS's Cheryl Galbraith's article about the beach monitoring program in this newsletter.

Another reason for the AGM is to elect board members. We are very happy to welcome **Blake Bartlett, Harold Hofstra, and Cathy Holman** as new board members. All the present members stayed on the board. It's very welcome to have fresh input and points of view to keep us on the right track.

Thank you to **Ruth Kolodychuk** for her hard work as secretary for the past five years. And thank you to **Cathy Holman** for taking on the role of secretary and for putting out this newsletter.

As always, if you have any comments or questions, please feel free to be in touch with me or any member of the board.

2011-2012 BOARD OF DIRECTORS



Photo provided by Laura Reichert, WLWLSA

Back row left to right: Harold Hofstra, Walter Kolodychuk, Carole Ellsworth, Chris Daniel (*Vice Chair*), Laverne Faulkner (*Chair*), LeVerne Ellsworth (*Treasurer*). *Front row left to right:* Ruth Kolodychuk, Kate Daniel, Cathy Holman (*Secretary*). *Missing:* Blake Bartlett, Shirley Elder, Bryan Mason, Tim Purnell.

Gramma Bear's HOME BAKING

Olde Strathcona Farmers Market
83 Ave & 103 St. - Aisle 7

EVELYN DICKHOUT

Box 2, Site 3
R.R. #2, Thorsby, Alberta
T0C 2P0

Phone: (780) 389-2103
Cellular: (780) 991-5432
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**WIZARD LAKE
MARINE INC.**

DON QUISTBERG
4444 - 50 Ave., Box 660 Calmar, AB T0C 0V0
Tel: (780) 985-4200 Fax: (780) 985-3810
Email: don@wizardlakemarine.com
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Thank you to **Gramma Bear's Home Baking** and **Wizard Lake Marine** for generously sponsoring our September 24th AGM.

Thanks to **Lizzee's Berry Farm** and the **Counties of Leduc and Wetaskiwin** for providing door prizes.

BEACH MONITORING PROGRAM

by Cheryl Galbraith BSc, CPHI®, Environmental Systems Officer
Environmental Public Health, Alberta Health Services



This year, the Alberta Health Services sampling program for Wizard Lake involved testing for bacteria on a weekly basis, as well as sampling and monitoring for blue-green algae presence, from June into early September.

The program showed us that lake conditions present by August long weekend were optimum for “extension growth” of blue-green algae. Extension

growth means that blue-green algae is present to such an extent that a risk to human health exists in the lake water. Fulfilling its duty to protect public health and prevent illness, AHS issued a health advisory, informing the public of risks associated with blue-green algae present in the lake.

It is the toxin present in some blue-green algae blooms that poses risk to human health. Because that toxin can remain in the water long after the bloom moves or disappears, health advisories for the presence of blue-green algae often remain in place for an extended amount of time.

The health advisory is an important tool in informing the public of risks, and the actions that people can take to protect themselves from these risks.

When it comes to blue-green algae, human health risks can include skin irritation, sore throat, sore/red eyes, swollen lips, and hay-fever like allergic reactions. More severe reactions – associated with consuming the blue-green algae contaminated water – can include nausea, stomach cramps, vomiting, diarrhea, fever, headache, muscle and joint pain, weakness, and liver damage. Pets and livestock have died as a result of drinking blue-green algae contaminated water.

OUR APPRECIATION GOES TO ...

by LeVerne Ellsworth

WLWLSA volunteer, **Bryan Mason**, for preparing the financial statement for 2011 and professionally setting up our corporate tax return, maintaining our charitable status, trial balance, general ledger, journal entries and audit trial. Your help provides ease of tracking our financial records.

Thank you to **Shirley and Lynn Elder** for reviewing the WLWLSA financial records for the fiscal year June 1, 2010 through May 31, 2011.



STATE OF THE WATERSHED REPORT

by LeVerne Ellsworth

WLWLSA has undertaken to have a **State of the Watershed Report** completed for Wizard Lake.

A **State of the Watershed Report** answers questions such as:

- What is the current condition of my lake?
- How does this compare to conditions in the past?
- What factors are contributing to the current condition?
- How does my lake compare to others in the area?

A **State of the Watershed Report** is:

- the scientific interpretation of watershed information and data .
- an objective tool that uses data and information to assess conditions and concerns .
- to use these analyses and findings to develop appropriate actions .
- a component of a watershed management package that leads to planning, implementation and evaluation.

This has been a long and expensive exercise to the tune of \$34,000, but our goal is to have it completed by March 31, 2012. This report has been made possible through grant funds from the **Alberta Stewardship Network** and the **Alberta Ecotrust Foundation**, as well as funds raised by WLWLSA.

Members will be notified when this report is available.



INLET STREAM SAMPLING

by LeVerne Ellsworth

Each spring, LeVerne Ellsworth heads up stream sampling of Wizard Lake tributaries. Assisting with the sampling are Kaley Segboer, County of Wetaskiwin Sustainable Agriculture Coordinator, and Al Frickey, a WLWLSA volunteer. This program is run under the auspices of Alberta Environment and provide LeVerne with training and equipment.

Eight locations of sampling occurred in April, 2011 at:

1. Range Road 275, north of Twp Rd 480
2. Near Wizard Heights subdivision
3. Twp Rd.480 – 1.5 km west of RR 272
4. Twp Rd 480 – 0.2 km west of RR 271 (canal)
5. Downstream farm – RR 271 – 0.8 km south of Twp Rd 480
6. Upstream farm – 1.0 km south of Twp Rd 480
7. Conjuring Creek weir
8. Wizard Ridge Estates drainage

Samples are collected for a variety of physical, biological and chemical parameters, primarily focusing on nutrient related indicators.

Note: Samples can only be collected where flow rates provide sufficient flowing water.



Al Frickey collects an inlet stream sample

pH and Conductivity

Levels were somewhat lower than 2010 which was typically more reflective of baseflow conditions. pH and conductivity were within the range typically observed elsewhere in the province.

Bacteria

Both fecal coliform bacteria and e. Coli samples were collected. Both are indicators of fecal contamination from warm blooded animals including wildlife, livestock, pets and humans. 2007 samples were significantly higher bacteria counts in location 4, 5, and 6 than in 2010, 2011. Overall, bacteria counts at all locations sampled in 2011 were similar and generally well below observed values elsewhere in the province.

Nutrients – Nitrogen

Nitrogen compounds contribute to nuisance growth of algae and macrophytes (aquatic plants) when present in excessive amounts. Ammonia can be directly toxic to aquatic organisms at high concentrations. Ammonia and nitrate+nitrite were generally higher in 2011, while total Kjeldahl nitrogen was similar to previous years. The Conjuring Creek site was lower for all nitrogen parameters, indicating that Wizard Lake is attenuating some of the incoming nitrogen, before discharging downstream.

Nutrients – Phosphorus

Phosphorus is generally the limiting nutrient for growth of algae and macrophytes in aquatic ecosystems and is often associated with eutrophication (increase of green biomass) of rivers and lakes. Both total and dissolved phosphorus were high, exceeding the total phosphorus guideline of 0.05 mg/L for protection of aquatic life. This reading may reflect differences in seasonality (sampling during spring freshet vs. baseflow).

In conclusion, water quality in tributaries draining into Wizard Lake were generally similar to concentrations observed elsewhere in the province. Overall, chemical and biological parameters indicate an impact from human disturbance in the watershed. As Wizard Lake is the eventual end point for these tributaries, loadings from the tributaries may have a potential effect on aquatic ecosystem health within the lake. The fact that both nitrogen and phosphorus concentrations were lower in Conjuring Creek, the overflow for Wizard Lake, indicates that these nutrients may be stored in the lake contributing to additional algal and macrophyte growth during the open water period.

For more information and the graphed data, please refer to our website www.stewardsweb.com/wizardlake under Publications & Resources.

BULLETIN BOARDS

by Ruth Kolodychuk

The last four of the WLWLSA bulletin boards have been restained and cleaned, thanks to **Walter Kolodychuk**.

Eight WLWLSA bulletin boards are located in various locations around Wizard Lake and are an important tool for getting information out to the community. The public is welcome to post notices on these boards





**THE ALBERTA LAKE MANAGEMENT SOCIETY
VOLUNTEER LAKE MONITORING PROGRAM**

by Carole Ellsworth

What is the Lakewatch Program?

Alberta's volunteer lake monitoring program, known as Lakewatch, has been an important source of water quality data for lake & watershed stewardship groups, local government, provincial government, lake users, and cottage owners. ALMS (Alberta Lake Management Society) manage this program.

Lakewatch strives to accomplish four primary objectives :

1. Act as a platform for educating lake users about the aquatic environment;
2. Foster and enhance public involvement in lake management;
3. Facilitate linkages between aquatic scientists and lake users; and,
4. Provide reliable water quality data at significant cost-savings.

Thanks to our Stewardship Association, 2011 was the fifth year of sampling Wizard Lake. Wizard Lake is sampled five times per year.

I would like to acknowledge and thank Larry McPherson, Wizard Lake Estates, for volunteering his time and boat to take the technicians out on Wizard Lake for the past three years. Without stewards like Larry these valuable programs would not succeed.

All members received a copy of **Lakewatch 2010 Wizard Lake Report** by email in September 2011. The 2011 report is not available yet . At first glance the report may appear very technical. The main parameters that most people are interested in are Total Phosphorous, Chlorophyll-a, and Nitrogen. You'll notice that there are no obvious trends with respect to these parameters in the report, and it is common not to evaluate data for trends unless there is at least ten years worth of data. This is because many factors that affect water quality, such as weather, are out of anyone's control and can skew data sets. For example, last year was quite mild and resulted in relatively little chlorophyll-a in comparison to what I'm sure was a much 'greener' year this past summer.

What changes can all of us make because of this data?

What we can do as a stewardship group is continue to collect

data - the more data the better. If there are changes to the lake in the future it will be the data we collect now that will help deal with these changes.

In addition, any available measures to reduce nutrients entering the lake (phosphorous and nitrogen) should be adopted. Wizard Lake has dealt with Living By Water in the past; these types of programs are great initiatives for minimizing unnatural changes to Alberta lakes.

Ultimately, ALMS goal is not to change green lakes to clear lakes, but to prevent changes to a lakes' natural state. Without the background data that is being compiled in these reports, it is impossible to know what is natural and what is unnatural for Wizard Lake. Please be assured that though the results of this report may not lead you to any exciting conclusions, the data collected over the years as a whole will be invaluable to the management of your lake.

This summer, the annual lake water sampling was a family affair. Larry MacPherson's grandchildren, Anna and Jack, were involved. Jessica Davis, ALMS technician, included the children to help them learn more about Wizard Lake.



Jessica (ALMS) with Anna and Jack MacPherson heading out on the lake for the morning's work.



Jack MacPherson taking wind and temperature readings.



Anna MacPherson measuring visibility depth of the water.

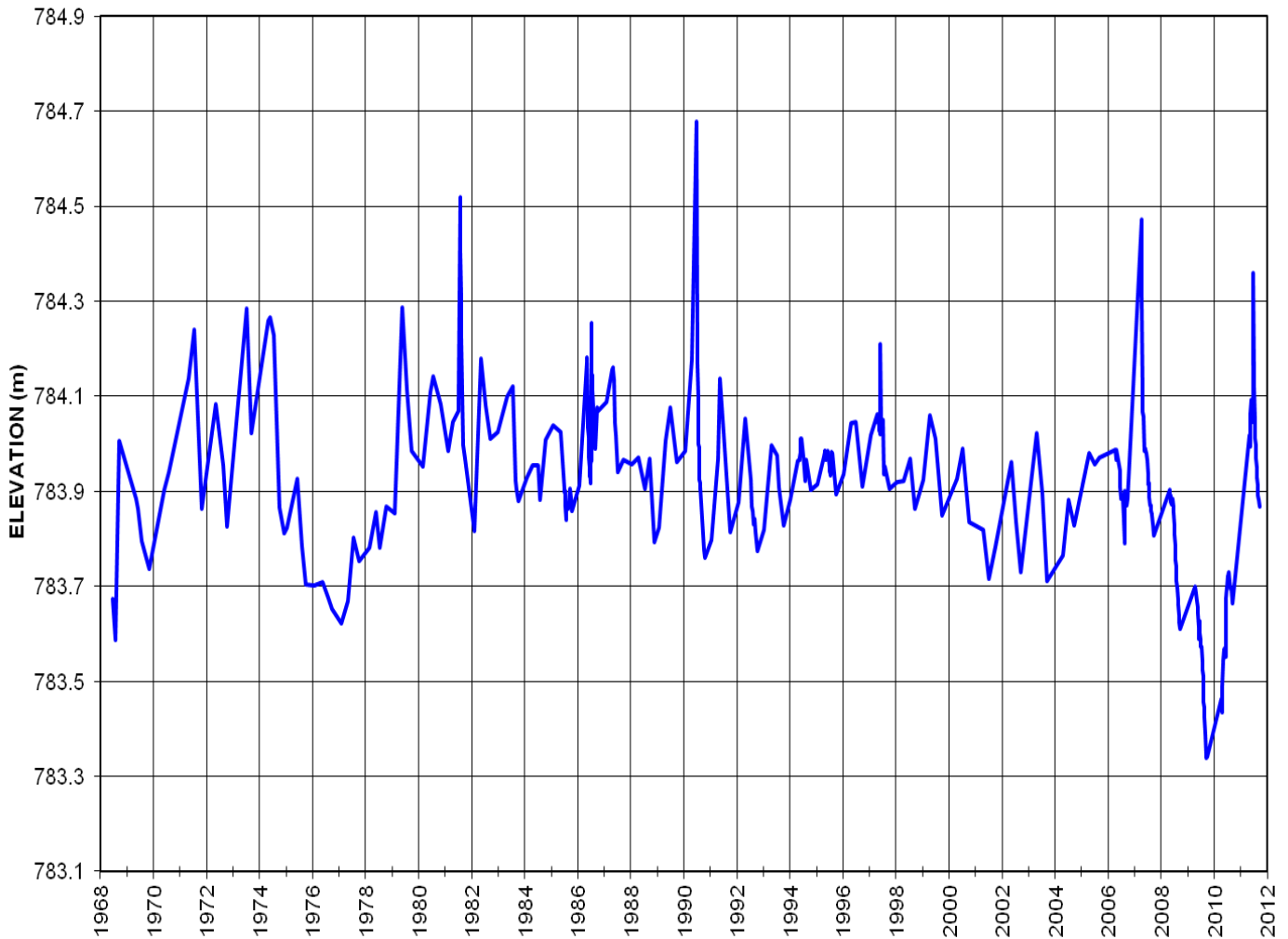


Jessica Davis (ALMS) and Jack MacPherson measuring water characteristics from surface to lake bottom.

Jack and Anna's great, great grandparents had land and raised their family at Wizard Lake in the early 1930's.

WIZARD LAKE NEAR LEDUC (05DF901)

Historical Water Levels



LATEST AVAILABLE W.L. = 783.867 M ON OCT 17/11.

LAKE LEVELS

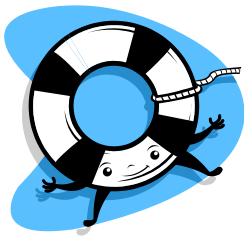
by LeVerne Ellsworth

Staff from Alberta Environment, Environmental Assurance Division, annually install a gauge at the west end of Wizard Lake. The gauge is monitored and read weekly throughout the summer months by LeVerne Ellsworth who forwards the log to Alberta Environment to chart.

It is noted that the more constant lake levels being maintained were after the installation of the weir in 1991.

WIZARD LAKE BOATING FOCUS GROUP FINAL REPORT — NOVEMBER 2011

by Chris Daniel, Vice Chair



I am pleased to have this opportunity to communicate the results of this group's recommendations to The County of Leduc which were ratified by Council on October 11th 2011.

On a personal note Kate and I have just returned from China, although it was intended as a vacation to see the historical sites such as the Great Wall, Tiananmen Square, the Terra Cotta warriors etc it ultimately ended up as an educational trip and confirmed how indeed fortunate we are to live in such a great country and province as Canada and Alberta. China with 1.4 billion people face so many environmental issues on a daily basis. We visited some 20 cities during our three week trip and only saw the sun three times, the rest of the time was a smoggy haze caused by a combination of pollution, low cloud and environmental conditions. The rivers and lakes are under constant pressure from overuse and show visible signs of pollution, reminding us again of the need to care for our own unique body of water, Wizard Lake.

Now back to boating issues, Leduc County formed this 'Focus Group' chaired by Dean Ohnysty, Director Parks and Recreation, Leduc County, with representatives from all areas of the lake including Wizard Lake Estates, Wizard Lake Ski Club, Enchantment Valley, members of Council from both Leduc County and County of Wetaskiwin and WLWLSA. The Committee met five times and came up with 11 recommendations of which 10 were ultimately approved by Council.

The highlights are as follows:

- Implement parking restrictions at the west end boat launch (north side).
- Ensure enforcement patrols are provided at the west end boat launch (north side).
- Leduc County by-Law officers establish relationships with boat users to educate, caution and enforce safe boating regulations that enhance safety and enjoyment for all users.
- Leduc County apply the same enforcement to the internal boat launch at Jubilee Park Camp ground.
- The County review the rates currently charged for day and seasonal use of the 'day use area' at Jubilee Park.
- Leduc County provide signage and education to inform boaters of the hazards at the area known as the 'narrows at sandy point'
- That Leduc County continue to engage the County of Wetaskiwin in all areas affecting the protection, sustainability and safety of Wizard Lake.

Note: The 11th recommendation to close "overflow parking at Jubilee Park" was defeated by Council on a vote of 4 to 3.

Leduc County have directed staff to closely monitor the use of overflow parking in 2012.

The 'Focus Group' will be kept together as a group to further address concerns and issues facing Wizard Lake, this must be considered the first step in an ongoing process and WLWLSA welcomes further input from residents, owners and users of Wizard Lake.

In conclusion WLWLSA would like to thank Leduc County for their acknowledgement of the safety issues facing Wizard Lake and being pro-active in finding solutions by the implementation and continuance of this group.

HIMALAYAN BALSAM –

A prohibited noxious weed

An escaped ornamental, this fast growing aggressive weed has invaded the shores of Pigeon Lake. It has also been spotted at Wizard Lake at Curilane and Enchantment Valley. It grows between .6 to 2 metres tall, rapidly out-competing other plants. Once developed, the seed capsules are very brittle and explode upon contact.

This plant has a shallow root system and can be controlled by hand pulling. Cut stems do re-grow from the roots.

DISPOSAL OF HIMALAYAN BALSAM:



Pull plant, bag, seal, and dispose in landfill bound garbage.

NEVER put invasive plants in the compost.

Our thanks go to Don Davidson from Pigeon Lake for bringing this problem to our attention.



*Photos provided by Susan Ellis,
Pigeon Lake Watershed Association.*

HOME SITE CONSULTATION PROGRAM—

Living by Water Project

by Jesse Hitchcock, Homesite Consultation Coordinator
The Living by Water Project, Nature Alberta

The Living by Water Project is an educational initiative operating across Canada. The project aims to help educate waterfront residents and give them the tools and awareness necessary to make environmentally friendly choices to protect lake health.

The cornerstone of this education process is the Home-site Consultation Program. Home-site consultations are unique in that they offer personalized advice specific to a resident's property. Trained Shoreline Advisors discuss questions regarding imported/sand beaches, chemical awareness and yard maintenance among other things.

In general, the home-site consultation addresses five aspects of lake front living: 1) Buffer zone, 2) Built structures, 3) Yard, 4) House and 5) Boating. The program has operated at 16 lakes in Alberta, including Wizard Lake where we have completed 17 home-site consultations.

The community at Wizard Lake has been very keen and involved with the program. There have been positive changes observed during two-year follow-ups with local residents, including implementation of buffer zones and elimination of household chemicals and fertilizers. If residents continue to make these positive changes on their properties, Wizard Lake should see cumulative effects that improve lake health dramatically!

We are in the running to receive a grant from **Shell Fuelling Change**. Grants are based on the public's vote. If selected we will be able to implement a great deal of stewardship initiatives and continued public education throughout the Province of Alberta (such as the Homesite Consultation Program). Currently we are in 10th place, so every vote counts.

We hope you will take time to vote for this project. Please feel free to share this link with your neighbours, friends, and family if you think they would be keen to support this program.

Your support is appreciated!



<http://fuellingchange.com/main/project/221/Living-by-Water-Helping-Lakeshore-Communities-Rebuild-Their-Ecosystem>



IT'S THAT TIME AGAIN!

**Have you renewed your
WLWLSA membership?**

One year membership: \$25.00

Lifetime membership: \$40.00

Contact Ruth Kolodychuk at 780-985-2140

Definition of Stewardship

*Every steward has his or her own definition
of what stewardship means to them.*

*Most often, stewardship evokes a sense of
personal responsibility for ensuring
our natural resources are sustainably
managed for our own quality of life,
and for future generations.*

Water Quiz

1. A watershed is?
 - a. A place where water is stored in a community
 - b. An area of land that drains into lakes, rivers and streams
 - c. An area near a water body free of human activity
2. Wetlands are lands that are covered with water all or most of the time. Wetlands are considered to be one of the most productive eco systems on earth. Wetlands are rich in wildlife and provide habitat for many different plants and animals. Wetlands are often called nature's kidneys because they:
 - a. contain mostly red vegetation
 - b. play an important role in water purification, filtering out silt, preventing erosion of shore lines and absorbing nutrients before they enter the water
 - c. are shaped like giant kidney basins
3. Major threats to our wetlands include drainage, development, excessive water usage, contaminated run off, invasive species and high lake levels.
 - a. true
 - b. false
4. Canadians use an average of:
 - a. 500 litres of water a day
 - b. 350 litres of water a day
 - c. 100 litres of water a day
5. What does 'sustainable' mean?
 - a. Available to everyone
 - b. Capable of being used for a long time
 - c. Related to light and heat
6. If the polar ice caps melt, which province would be most affected?
 - a. British Columbia
 - b. Alberta
 - c. Saskatchewan
7. Which pollutant is most commonly released into waterways by individuals?
 - a. Pesticides and fertilizers
 - b. Laundry detergent
 - c. Road salt
8. Nitrates and phosphates are called nutrients. These 2 nutrients promote growth. When the levels of these nutrients get too high, aquatic plant growth can get out of control. Once this excess plant life dies and sinks to the bottom, the decomposition process can deplete the water of oxygen killing fish and other aquatic life. This process is called:
 - a. Evaporation
 - b. Carbonation
 - c. Eutrophication
9. Eutrophication is a natural process and under normal conditions it can take thousands of years, but too many nutrients can speed up the process. Nutrient rich eutrophic lakes have frequent algae blooms, less oxygen and may also have blue-green algae or Cyanobacteria that can produce deadly toxins in the water causing illness to humans and animals.
 - a. true
 - b. false
10. Phosphorus is a chemical element that occurs naturally in the environment and is considered an essential nutrient required for healthy bones and teeth. It is an ingredient in fertilizers and is used in soaps and detergents to boost cleaning. When phosphorus from these sources runs off the land and is discharged into our waterway it causes
 - a. A chemical reaction and a volcano effect occurs
 - b. Aquatic plants and algae including blue-green algae or cyanobacteria grow excessively
 - c. An overgrowth of aquatic plants and algae that deplete oxygen in the water as they decompose
 - d. Cause the lake to become eutrophic
 - e. Both b, c and d
11. Nitrogen is the most abundant element on the planet 78% of the earth's atmosphere is made up of nitrogen. Nitrate is the primary ingredient in fertilizer and is a by-product of human waste. When water runs over land it can wash nitrates into surface water. Excess nitrates entering our lake can cause?
 - a. Algal blooms
 - b. Drinking water to become unsafe
 - c. Both a and b
12. Lakes are characterized in three ways: Oligotrophic, Mesotrophic and Eutrophic depending on the characteristics and the amount of nutrients in the water. Wizard Lake is considered a:
 - a. Oligotrophic lake
 - b. Mesotrophic lake
 - c. Eutrophic lake
13. Canada has 20% of the world's total fresh drinking water. Although it may seem like this is a lot of water, it is not unlimited and only ____% of our planet's water supply is replaced each year through rain and snow.
 - a. 10%
 - b. 7%
 - c. 50%
14. Many of the things we do every day can harm our lakes, streams and rivers. It is important that we all take action to protect and clean our water, to keep our water clean we should:
 - a. Always buy cleaning products such as soap, laundry detergents, cleaners and shampoos that are certified 'Environmentally Friendly' to reduce phosphorus and other harmful chemicals from entering our water
 - b. Dispose of all cleaners, unused prescription drugs, used batteries and all other hazardous waste in proper disposal sites
 - c. Reduce or eliminate the use of pesticides and fertilizers
 - d. Protect and preserve wetland and natural shorelines
 - e. All of the above

1-b 2-b 3-a 4-b 5-b 6-a 7-b 8-c 9-a 10-e 11-c 12-c 13-a 14-e