



Wizard Lake Watershed & Lake Stewardship Association

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Newsletter #17

Fall 2013



Harold Hofstra, Chair

CHAIR'S MESSAGE

Do Not Walk Past

the End of the Pier

We can all see the humor in this caption. When I looked at this caption a second time I thought about the view at the end of my pier. There was beautiful Wizard Lake. Some like to refer to it as the "Diamond in the Rough." A jewel, Wizard Lake certainly is. On September 29th we took our grandchildren out for the final boat ride of the season before putting it into storage. It was a beautiful day, so quiet you could hear and see some of the lakes best kept secrets - the loons on the lake, the colors of autumn, leaves preparing for winter, fish surfacing before the icy fingers of winter freeze the lake over, the awesome beauty of creation. There is true pleasure and beauty in Wizard Lake for all stakeholders and recreation users and surrounding community to enjoy. The Wizard Lake Watershed and Lake Stewardship Association would like everyone to take pride in preserving wildlife, wetlands and healthy waters.

With this focus our theme of Creating Awareness, our Board of Directors has held workshops with key speakers and printed brochures and newsletters along with promoting the State of the Watershed report and its findings to keep everyone informed. The Spring meeting was a great success because of four very well informed speakers, David Trew, Director of the North Saskatchewan Watershed Alliance; Erin Rodger, Aquality Environmental Consultant; Brianne Lovstrom, Program Coordinator, Living by Water Project, Nature Alberta; Kate Wilson, Alberta Environment and Sustainable Resource Development; and the good attendance of the membership and guests. With each speaker we were all encouraged by the involvement of government and private sector in the work and studies being done to promote healthy waters.

The Board of Directors continue to strive to move forward on the journey to promote healthy waters on Wizard Lake but this can only be done with the support of the WLWLSA membership. We continue to look for more members to be-

come directly involved with programs. Do you have a passion for preserving the "Diamond in the Rough" for future generations? Do you stand on the pier overlooking Wizard Lake with a smile of contentment? Or do you turn around and take it for granted that it will all be there tomorrow for our next generation?

AGM UPDATE

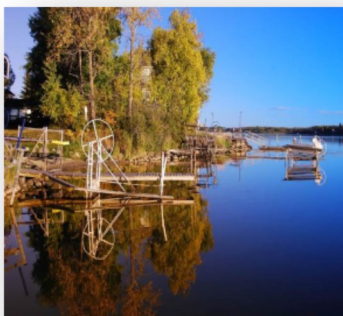
Harold Hofstra

Once a year the WLWLSA Board of Directors hold their Annual General Meeting as this provides an excellent opportunity for the membership to share concerns or express appreciation. This summer was a relatively quiet one with everyone enjoying a beautiful summer on the healthy waters of Wizard Lake.

As a board we do have our work cut out for us next year as we work collaboratively with both the Counties of Leduc and Wetaskiwin as a working group dealing with important issues surrounding the lake. Some of the issues at hand are the riparian setback, shoreline erosion and maintaining healthy wetlands.

One concern that was brought forward was the condition of our neighboring lake, Pigeon Lake. You ask yourself, how that would affect Wizard Lake? The Pigeon Lake Watershed Association is looking at ways of cleaning up their lake water. The ideas are lengthy with many already being implemented. The one issue that keeps coming up is the rejuvenation of water by bringing in a fresh supply of water from

another source. There are several options for this but the one that WLWLSA members should be aware of is the drawing of water from the Paskapoo Water Aquifer. This aquifer is a huge underground water reserve running along the foothills south to Calgary. Wizard Lake is also fed by this Aquifer as are many deep-water wells. Will this have an impact down the road on Wizard Lake or any small lake in the Western province? Do we



want to find out or do we voice our concern now? (*Water for thought!*)

Since this was an election year, county council candidates were invited from the districts surrounding Wizard Lake to attend our meeting. These candidates were quickly brought up to speed on activities and issues surrounding Wizard Lake.

On a final note, the Board wants to pass on a **Thank You** to **Ruth Kolodychuk and Tim Purnell**, two Board members who have stepped down. We appreciate your years of service and time commitment! Thanks again.

We hope to fill these positions in the near future. If you would like to help serve on the Board or as a volunteer in one of our projects, please give Harold Hofstra a call at 780-220-4677.

SoW

STATE OF THE WATERSHED REPORT

LeVerne Ellsworth



The State of the Watershed report was completed in the spring of 2013 after 4 years of research and \$34,000.

This was made possible with funding from the **Land Stewardship Centre** and **Ecotrust** and working with **Aquality Environmental Consulting Ltd.**

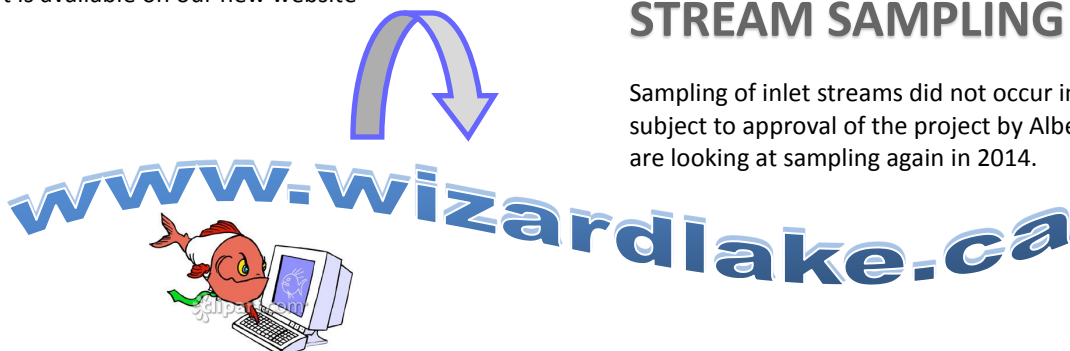
Upon completion of this report, we presented it to Leduc County and the County of Wetaskiwin. It was favorably accepted by both Counties and it was agreed that two representatives from each County would sit on a working group headed by WLWLSA.

This working group will review concerns brought forward to WLWLSA and make recommendations towards rectifying problems and concerns.

A committee will be established after the municipal election. **We are seeking volunteers from the general public** to sit on the committee. We need your support.

Please contact Harold Hofstra at 780.220.4677 or LeVerne Ellsworth at 780.985.3248 if you would like to volunteer or have any questions.

This report is available on our new website



ALMS and Zebra Mussels

Larry MacPherson

This year Wizard Lake was sampled and tested 5 times from June through September, 2013 by the **Alberta Lake Management Society (ALMS)**. The testing was the same as previous years and the results will be available next spring. It is not certain if Wizard Lake will be tested next year, however we will be advised one way or another next spring. Carole Ellsworth will register Wizard Lake for the program in 2014.

Elynne Murray was our technician this year. Elynne was knowledgeable, courteous and a pleasure to work with. Our grandchildren were able to go testing with us again this year, and Elynne involved them in the complete process. As you can see by the picture we did not always have the best weather.



In addition this year, testing for invasive species, zebra mussels for example, was conducted. Testing was done in two ways:

1. Water samples were taken at different spots on the lake and then taken for analysis.
2. Small cement tubes were suspended from piers into the water in June and collected in September.

The cement tubes were suspended from piers at the Ingam's, Daniel's, Ellsworth's, and ours. Visually, samples showed no indication of invasive species. We kept the cement tubes, and even if Wizard Lake is not tested in 2014, we will deploy them and report any findings to ALMS.

STREAM SAMPLING



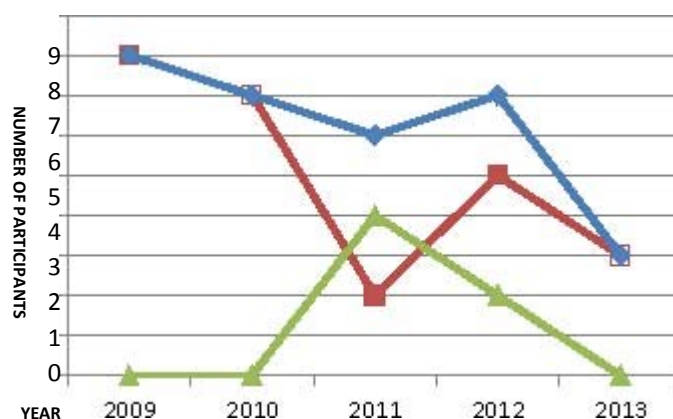
Sampling of inlet streams did not occur in 2013. However, subject to approval of the project by Alberta Environment, we are looking at sampling again in 2014.

Wizard Lake Report 2013

The summer was the fifth year that the Living by Water Project has been active at Wizard Lake. This summer we completed three initial consultations with residents at Wizard Lake on July 11. The number of participants is lower than previous years and may be due to the lack of participants available to participate on the selected weekend.

Initial
Follow Up
Total

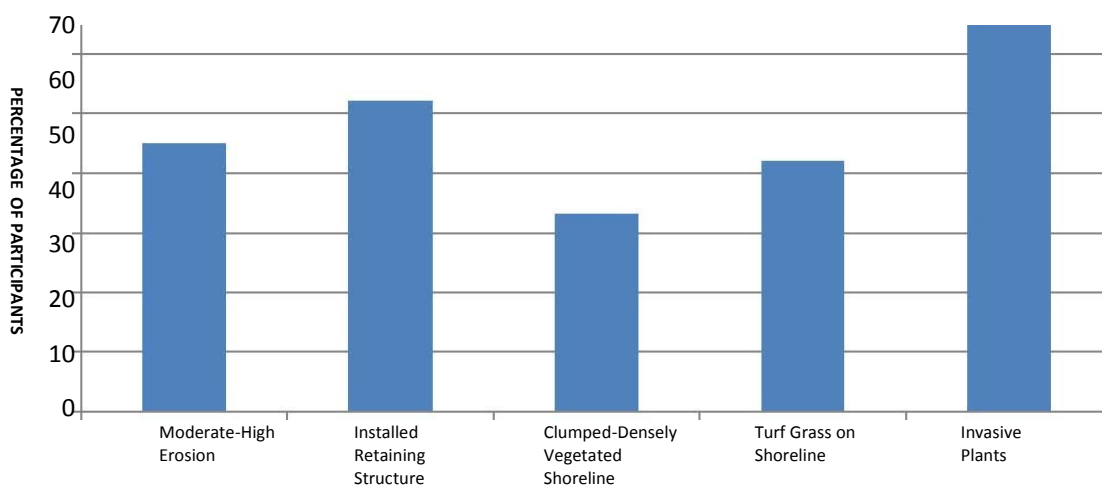
WIZARD LAKE PARTICIPATION HISTORY



2013 Statistics

- 100% of residents used their shoreline property as a permanent residence and they all had water saving devices installed in their homes. 67% of residents experienced moderate to high amounts of erosion on the shoreline and had turf grass to the shoreline resulting in the installation of a hardened retaining structure.
- 100% of the residents had clumped to densely vegetated shorelines with 67% of the residents maintaining more than 50% of their shoreline in a natural state.
- None of the residents were using fertilizers on their property; this was really great to see! Unfortunately 67% of the residents reported using pesticides.
- 33% of residents reported using harsh chemical cleaning products in the home.

Overall Statistical Trends 2009-2013 Shoreline Characteristics



Homesite Consultation Program cont'd

Discussion

48% of the participants at Wizard Lake are permanent residents. Overall trends indicate that there is potential for residents to improve the overall condition of the shorelines that their properties are located on. Residents should be encouraged to soften their hardened retaining structures and encourage more native vegetation to grow along the shoreline as only 30% of shorelines have significant vegetation present on the shoreline; as a result up to 45% of residents have reported experiencing erosion of the a shoreline and over 50% of residents have installed a retaining wall. Invasive plants are a concern with up to 65% participants reporting the occurrence of invasive plants on the shoreline. About 30% of participants reported using fertilizers; this is a great start to minimizing the amount of additional nutrients that enter the lake, however it would be wonderful to see the number of residents that use fertilizers and pesticides to go to zero. Residents have shown an awareness of phosphate free soaps and cleaners with many electing to use these products in favor of traditional cleaners that contain phosphates, unfortunately most residents are using harsh chemical products and should be encouraged to stay away from these products.

While there were fewer residents involved in the project this year the shoreline advisor found these residents to be enthusiastic and receptive to suggestions provided by the advisor.

Residents showed concern for the health of the lake and were interested in learning how they could be more lake friendly. This is still a valuable program for residents of Wizard Lake and I am hopeful that we will be able to increase the number of participants there in future years with an increase in outreach initiatives and word of mouth from previous participants.

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STEWARDS IN MOTION

Carole Ellsworth

Our **Stewards in Motion** spring meeting was held at Pipestone Hall on Saturday, June 8, 2013. The hall was full and the four guest speakers were very informative and interesting.

The featured speaker was **David Trew, Executive Director of the North Saskatchewan Watershed Alliance**. We now know how Wizard Lake fits into the North Saskatchewan Watershed, the history of the Alliance, and the problems that Alberta lakes are facing.

Erin Rodger, Aquality Environmental Consulting, explained the purpose, benefits and findings of our **State of the Watershed Report**. Refer to page 5 for a summary of her presentation.

Brianne Lovstrom, Program Coordinator, Living by Water Project, Nature Alberta, explained what we can do to keep our watershed healthy and encourages all watershed residents to book a homesite consultation visit. A summary of her presentation is on page 6.

Kate Wilson, Alberta Environment and Sustainable Resource Development, spoke of the very real threat of **zebra mussels** invading Alberta lakes. This is an aquatic invasive species which will have a harmful impact on the lake if introduced. Refer to page 7 for a summary of her presentation.



Guests Mayor John Whaley, Leduc County (Ctr), and County of Wetaskiwin Councillors Larry McKeever, Div 5 (L) and Wayne Meyers, Div 4 (R) who represent Wizard Lake



Lee Scobie & Ruth Kolodychuk volunteering in the kitchen.



Delicious lunch—Thanks!

THE WIZARD LAKE STATE OF THE WATERSHED (SoW) REPORT

Erin Rodger B.Sc., Aquatic Biologist, Aquality Environmental Consulting Ltd.

Summary of presentation for the WLWLSA 13.06.08 'Stewards in Motion' Spring meeting

Why do we want a SoW?

- Water quality problems from sewage, algae, pesticides, agricultural runoff
- Recreational use and lake public safety and enjoyment
- Bed and shore health (e.g. loss of buffer zones, shoreline erosion)
- Loss or damage to wildlife and fish habitat

Public Perceptions and Concerns

- Boat traffic; regulated boat use; reduction in fishing boats; private property damage; trespassing by quads, bikes, and ski-doo's; demand for more stewardship initiatives (trails, canoeing, cycling, etc.)

Wizard Lake SoW Report

- Created for the Wizard Lake Watershed & Lake Stewardship Association (WLWLSA), residents, recreational users, policy makers, industry & NGO's
 - ⇒ Summarize current knowledge of the watershed for land-use, water quality, water quantity, biological characteristics
- Clear picture of the current state of the watershed & creates a benchmark for future comparisons
- Precursor to a Watershed Management Plan (WMP)
- Identifies problems and concerns within the watershed that need to be addressed in future Watershed Management Plans
- Identifies potential causes of the problems & identifies knowledge and data gaps
- Provides background information for management decisions and answers the following questions:
 - ⇒ What is the condition of the watershed?
 - ⇒ What data/knowledge gaps exist?
 - ⇒ What steps can be taken by local governments, residents, the WLWLSA, and other stakeholders to prevent future impacts to, mitigate existing impacts of, or restore impacted or lost ecosystems?

Other Benefits of a SoW Report

- Powerful awareness and education tool
 - ⇒ Provides benchmark conditions → to gauge effectiveness of implemented management plans and other initiatives e.g. how has the elimination of fertilizer use by cottage owners impacted water quality in the lake?
- Identifies area & data gaps requiring further monitoring
- Helps identify management priorities:
 - ⇒ Specific preservation & conservation goals
 - ⇒ Rehabilitation & restoration activities
 - ⇒ Plans for protecting & improving watershed health

FINDINGS :

**OVERALL CONDITION OF THE LAKE
WAS "FAIR TO GOOD"**

Indicators rated as 'Good'

- Oil and Gas Activity - Low petroleum well density 0.003 wells/ha
- Linear Developments - Linear developments account for only 1.3% of land base (low relative to surrounding region)
- Bacteria - Average concentrations of fecal coliforms below water quality guidelines
- Lake Levels and Withdrawals - Low withdrawals relative to other North Saskatchewan River sub-basins
- Land Cover - More than 50% of basin under natural land cover

Indicators rated as 'Fair'

- Nutrients and Routine Parameters - Nitrogen and phosphorus exceed water quality guidelines, but by less than 50% of the time
- Urban, Rural, Recreational, and Agricultural Development - Anthropogenic development accounts for only 36% of the land base
 - ⇒ This likely underestimates problem because of high recreational pressure without high development

Indicators rated as 'Poor'

- Manure Production - 4,800kg/ha annual manure production
 - ⇒ This likely overestimates problem due to regional nature of data available

Indicators with Insufficient Data

- Wetland Loss
- Riparian Health
- Metals in the water
- Parasites
- Pesticides

Need to work at filling these knowledge gaps – work with other groups like Cows and Fish, Living by Water and Alberta Lake Management Society

Where do we go from here?

1. Distribute report to stakeholders
2. Encourage stakeholder action to improve watershed health
3. Work with Wetaskiwin and Leduc Counties
4. Begin WMP process and public consultation
5. Best Management Practices (BMPs)
6. Riparian Health Assessment

What can you do to help today?

1. Naturalize your shoreline – discontinue aquatic weed pulling and allow natural vegetation to grow along the shore
2. Discontinue use of fertilizers and pesticides on your property
3. Slow down when boating to reduce wave action along the shoreline
4. Replace your old outhouse with a vaulted or composting variety
5. Volunteer for stewardship initiatives or with groups like Alberta Lake Management Society (ALMS)

SHORELINE MANAGEMENT

Brianne Lovstrom, Program Coordinator, Living by Water Project, Nature Alberta

Summary of presentation for the WLWLSA 13.06.08 'Stewards in Motion' Spring Meeting

Four Reasons to Care About Your Shoreline

1. Protect your investment
2. Save time and money
3. Safeguard your drinking water
4. For fishing and watching wildlife

Ecological Value of Healthy Shorelines – What shorelines do...

- Provide food & habitat to wildlife
- Filter nutrients, sediment & bacteria
- Prevent soil erosion
- Reduce impacts of flooding
- Provide a source of enjoyment

Signs of a Healthy Shoreline

- Things look "wild"
- Lots of native plants
- Trees, shrubs, herbs
- Dead trees ("snags"), driftwood, and stones
- Birds, fish and other wildlife

Shoreline Management

1. Buffer Zone
2. Yard
3. Built Structures
4. Household
5. Recreation

1. Buffer Zone

- Native Vegetation root systems = filtration system
- Erosion prevention (natural vs. landscaped)
- Habitat and Wildlife
- Most noticeable affect on water quality and habitat (shoreline health)

2. Yard

- Shoreline Access
- Lawn
- What is the main function of the yard????
 - ⇒ Recreation
 - ⇒ Pleasure
 - ⇒ Exploring
 - ⇒ Aesthetics
- Chemical use

3. Built Structures

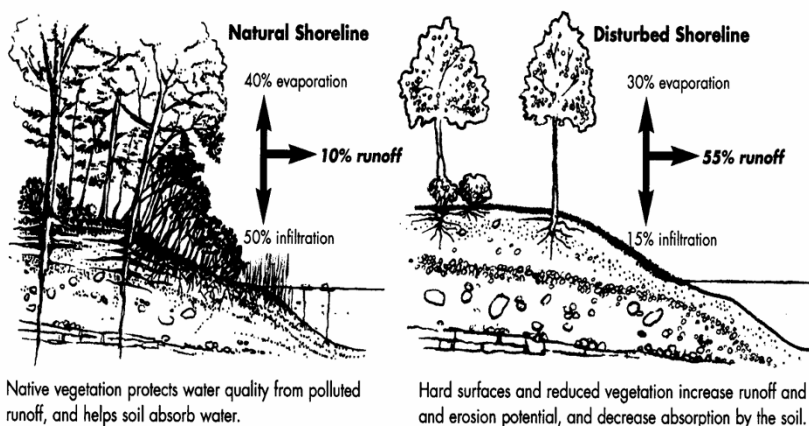
- What are hardened surfaces?
- What happens when a surface is hardened?

4. Household

- In the house...does that really affect my lakeshore ecosystem???
 - ⇒ Sewage System (tank, field etc.)
 - ⇒ Detergent use
 - ⇒ Water conservation/well systems/roof run-off

5. Recreation

- Chemical spillage
- Wakes disturb waterfowl habitat and may cause erosion
- Propellers stir up sediments to release otherwise stored nutrients
- Spread of Invasive Species through boats and live bait.
- Noise pollution



End Result

- Water quality is an indicator of shoreline management & watershed management
- Shorelines are the last line of defense for incoming pollutants
- Shorelines help circulate nutrients and assist in maintaining stable PHs and dissolved O2 levels
- Diversity creates a resilient water purification system
- REMEMBER: The parameters of good water quality may differ depending on the ecosystem

End Result

- Shorelines are not only homes to humans, but to a large diversity of species
- Lakes are often referred to as our biodiversity banks
- Habitat diversity = Biodiversity
- Biodiversity = Resilience
- Resilience = nature's insurance policy

Homesite Consultation Program

- One-on-one consultation with a shoreline advisor
- Property specific report and recommendations
- Completely confidential
- FREE!

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Aquatic Invasive Species (AIS)– Threats from *Dreissenid* Mussels and A Program for Alberta
Kate Wilson, Alberta Environment & Sustainable Resource Development
Summary of presentation for the WLWLSA 13.06.08 ‘Stewards in Motion’ Spring Meeting

What are Aquatic Invasive Species (AIS)?

- Not native
- Animal, plant or pathogen
- Prolific reproduction
- No natural/native predators
- Poses a significant risk to the economy, environment and/or human health

Invasive Mussels

- Quagga and Zebra
- Native to the Black/Caspian seas
- Discovered in North America in 1988
- Rapid spread across midwest and east

Invasive Mussels...

- Zebra & Quagga mussels are invasive freshwater mollusks that infest waters in large numbers and attach substrates (e.g. pipes)
- Have NO predators in North America
- Virtually impossible to eradicate once established
- Can live up to 30 days out of water
- Filter feeders – remove phytoplankton, zooplankton, algae
- Up to one million eggs each season

Mussel impacts on the economy

- Filling intake pipes of dam operations and irrigation lines
- Clogging screens
- Requiring new capital and maintenance costs = **MILLIONS EACH YEAR**
- Increased costs to users
- Crop & food production; drinking water & waste water

Mussel impacts on the Environment

- Filter enormous amounts of plankton, affecting entire food web
- Smaller and fewer fish
- Accumulate toxins
- Outcompete native species
- Decrease chlorophyll
- Pollute water – create toxic algal blooms

Mussel impacts to recreation

- Damage to boats
- Loss of native species-impacts to fishery
- Sharp shells on beaches
- Tourism costs

How are invasive species transported? Hitchhiking!

Boats & Trailers

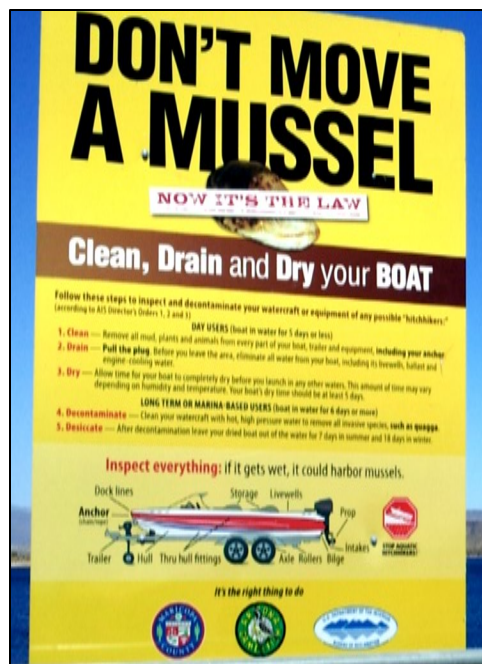
- Water Trucks
- Water-related construction trucks and equipment
- Ballast Water
- Aquarium Releases
- Wading Gear



The AIS Response in Alberta

HIGHEST RISK = RECREATIONAL BOATERS

1. Emergency response protocol **1-855-336-BOAT**
2. Awareness and information
3. Watercraft inspection stations
 - Milk River, Cardston, Crowsnest Pass
4. Legislation and policy
 - Provincial legislation assessment
 - Federal AIS regulation consultation
5. Monitoring and reporting
 - Over 40 water bodies (2013)



The Monitoring Plan

- This summer: add to existing efforts
- Profile high-risk water bodies
- Next steps:
 - Add water bodies as needed
 - Explore options for analysis
 - Build partnerships
 - Add aquatic plant survey
 - Build robust program!

Help us spread the word!

More information may be obtained at these sites:

<http://mywildalberta.com/Fishing/SafetyProcedures/AquaticInvasiveSpecies.aspx>

<http://aesrd.wordpress.com/2013/06/19/stop-aquatic-hitchhikers-from-entering-alberta/>

STREAM OF DREAMS



Cathy Holman

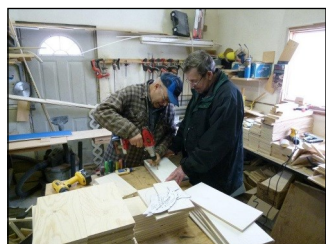
WLWLSA sponsored the Stream of Dreams program at New Humble Centre School during Education Week 2013. Our aim was to bring watershed knowledge and awareness to youth in our community.

The Stream of Dreams program is an eco-education initiative through a non-profit society known as the Stream of Dreams. The Stream of Dreams Mural Society has a mandate to educate youth and communities about watersheds – making a difference in how we treat rivers, streams and lakes and the fish that live in them through a combination of watershed instruction and art.

On April 30 students were instructed about local lakes, rivers and streams, and ways they can help in protecting these waterways and the fish that live in them. An art instructor then guided students through the activity of painting wood fish. WLWLSA volunteers were on hand assisting and everyone was involved - including school staff and parents - creating works of art for the mural. Students were enthusiastic, eager to learn and their creative talents showcased.

WLWLSA volunteers then spent a very chilly May 1st morning installing the dream fish along the south school fence facing highway 795. The mural is designed to resemble fish swimming along the fence. Each class had the opportunity to check out the completed mural and were very excited to find the fish they created within the mural.

A tremendous number of volunteer hours were spent getting ready for the workshops. **Blake Bartlett** was instrumental in putting together a fish-making crew. **Blake, Allan Coles, Albert Faulkner, Walter Kolodychuk and LeVerne Ellsworth** along with



Allan Coles & Blake Bartlett

Mr. Roth and his CTS students at Calmar Secondary School spent many hours making and preparing fish. This was a major undertaking as there were many steps involved in producing fish of various sizes and shapes. A very special thank

you goes out to **Allan Coles** who volunteered his time and equipment for cutting out the fish and **Albert Faulkner** whose workshop was taken over by fish for months of drilling, sanding and priming.



The success of this project was due to the many volunteers

and community who gave their time to help out. This project turned out to be a real community effort and a huge thank you goes out to everyone.

WLWLSA sponsored this program with the financial assistance of the **Watershed Stewardship Grant Program** and **Land Stewardship Centre** and we would like to acknowledge and thank them for making this project possible. We



also thank **Leduc County** for their financial contribution.



If you're driving by the school and have some time to stop — park the car and walk the fence to really enjoy and appreciate the mural.



Take a minute and visit our new website at
www.wizardlake.ca
 Watch for the Spring edition for more updates and information.