HALIFAX
REGIONAL MUNICIPALITY

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Environment and Sustainability Standing Committee
July 7, 2011

TO: Chair and Members of Environment and Sustainability Standing Committee

SUBMITTED BY: Phillip Townsend, Director, Infrastructure and Asset Management

DATE: June 15, 2011

SUBJECT: **Save our Lakes Policy Project**

ORIGIN

Environment and Sustainability Standing Committee, February 3, 2011: *MOVED by Councillor Fisher, seconded by Councillor Dalrymple, that the Environment and Sustainability Committee direct staff to provide a report outlining the short term policy opportunities for HRM Lakes.*

RECOMMENDATION

It is recommended that the Environment and Sustainability Standing Committee:

1. Accept the summation report in Attachment One;
2. Direct staff to arrange a two hour workshop in September to discuss the community recommendations and community input/submission, and provide a recommendation for prioritization of actions and direction to staff; and
3. Forward a copy of this report to the Community Planning and Economic Development Standing Committee as an Information Report.

BACKGROUND

Following enlightened concern around pressures to water quality in urban and suburban lakes in HRM, the committee directed staff to develop and identify some policy opportunities for the committee.

On May 19th, a Community Session, which included approximately 20 members of the public, was facilitated. The attendees were representative of Environmental NGO's, the Watershed Advisory Board members, and community stakeholders. The focus of the workshop was to identify policy opportunities for the Environment and Sustainability Standing Committee to direct staff to progress.

Policy related to Water Resource Management is in the Terms of Reference for the Environment and Sustainability Standing Committee.

DISCUSSION

Attachment One fully articulates the workshop.

In order to progress work, staff recommend setting up a two hour workshop with the session facilitator and staff to discuss areas that can be recommended by the committee for staff to re-engage with the community group and develop and progress policy ideas for committee consideration.

The workshop would enable fluid conversations on the contents of the summation and help give direction on prioritization to staff.

It would be proposed to bring Halifax Water, Sustainable Environment Management Office (SEMO), and Community Development staff to the workshop to support the conversation.

Staff's intent of the workshop is to clearly not eliminate any ideas from the community, but to identify where to start.

BUDGET IMPLICATIONS

Purchase Order #2070518342 was issued to Stantec in February 2011, to assist staff with this Community Engagement work around water policy. The Councillor/Staff workshop would be contained within this Purchase Order. Funds are available in D935, SEMO, for this work.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Project and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Project and Operating reserves, as well as any relevant legislation.

COMMUNITY ENGAGEMENT

This exercise is completely about engaging the community to achieve policy direction for the Environment and Sustainability Standing Committee.

ALTERNATIVES

Committee could chose to not have the workshop and direct staff on areas of priority only.

ATTACHMENTS

Workshop Summation Report (Stantec)

A copy of this report can be obtained online at http://www.halifax.ca/commcoun/cc.html then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by : Richard MacLellan, Manager, SEMO, 490-6056

Financial Approval by: _____
Bruce Fisher, MPA, CMA, A/Director of Finance/CFO, 490-6308

HRM Protect Our Lakes – Workshop I May 19, 2011

Consultation and Facilitation Support

File No: 121510719

June 2011

Table of Contents

1.0 Introduction

HRM Sustainable Environment Management Office (SEMO) was directed to respond to a motion of the HRM Environment and Sustainability Committee that '*staff provide a report outlying the short term policy opportunities for HRM lakes.'* On May 19, 2011, SEMO gathered together interested and knowledgeable parties in water resource management to discuss the protection of lake ecosystems within HRM. This first phase of consultation was designed as a Workshop and was called 'Protect Our Lakes'. The initiative was responding to three key concepts:

- Development and encroachment on water resources increases stress to our freshwater ecosystems, in particular our lakes.
- Recent Water Quality Monitoring Data demonstrates the declining health of our lakes.
- Well designed policies have the potential to mitigate or eliminate negative ecological impacts. We are fortunate to have many knowledgeable, passionate, and committed residents wishing to protect our water resources.

The Protect Our Lakes Workshop was designed to help establish priority short term actions that would focus HRM's efforts to improve protection of lakes. This report is a result of this work, and provides a summation of the consultation and resulting community recommendations, providing guidance for the sustainable development of the HRM in consideration of some our most valuable environmental assets – our lakes.

2.0 Consultation Design

On the evening of May 19 2011, HRM's 'Protect Our Lakes,' initial workshop session, was held at the Mic Mac Amateur Aquatic Club, at 192 Prince Albert Road. A copy of the Workshop Invitation can be found in Appendix A. The evening began with a presentation reviewing the purpose of the meeting followed by introductions of all attendees. A full list of attendees can be found in Appendix B. Following this key outcomes and priorities for the workshop were established. Finally, the presentation outlined the key principles of engagement and discussion for the evening using the World Café Format. A copy of the presentation can be found in Appendix C.

The **purpose** of the workshop was identified as:

To bring together interested and knowledgeable parties to provide an opportunity to voice recommendations on short term steps to **enhance management and protect lake ecosystems within HRM.**

Key meeting **outcomes** were identified as:

- To generate a summation of Community Recommendations.
- To use the ideas generated by this group to inform other lake related policy work being undertaken in HRM.

A key **priority** of the workshop was identified as:

- Identifying actions to take place in the near term. (*What are the things we can do now or begin now that will deliver benefits?)*

Using this framework as a guiding foundation, meeting participants were split into working groups and led through a series of question. The task of the exercise was to answer the following questions about management and protection of lake ecosystems in HRM:

- What is causing impacts to our lakes?
  - What are the biggest looming challenges?
  - What are the root causes of these problems?
- What would the desired outcome look like/be if these impacts were being addressed?
- What are the things we can do in the short run to address the impacts and move us toward our desired outcomes?

After the working groups completed each question, each group shared their thoughts in plenary session. Between each question, results of the previous discussion were summarized and related back to the group during plenary. Full results of the exercise can be found in Appendix D.

3.0 Results of Consultation Program

The input gathered from the meeting held on May 19th, 2011 can be found in its original format in Appendix D.

The input gathered from the workshop was further analyzed, interpreted and organized revealing key theme areas. For each theme area, key issues, a future vision and desired potential actions were identified; this is outlined in the tables presented in Section 3.1 – 3.11. A full table showing these results in combination can be found in Appendix E.

Key theme areas included: Education, Expertise, Public Access, Pollution & Siltation, Biophysical Environment, Water Quality Management, Lakeshore Management, Wastewater Management, Stormwater Management, Government & Jurisdiction and Policy & Regulations.

3.1 EDUCATION

Theme Area 1: Education	
Key Issues	**Future Vision**
• Public Ignorance of opportunities to participate in lake protections – education!! • Lack of stewardship sense of ethic and responsibility • Need water champion	• Respect and understanding of importance of water resources • More education on wise practices around freshwater • Knowledgeable residents valuing lakes (school curriculum) • Better water education, especially for kids! • Higher community connection to the environment • Responsible developers • Educated lake front owners/public responsibility • Every lake has a champion(s)
Potential Short Term Actions	

• Education and awareness campaign targeted at new waterfront property owners
• Water awareness; public education program
• Education – Education – Education
• Public education – on watershed impacts
• Public Education
  ○ HRWC
  ○ NSE
  ○ DFO
• Needs a coordinator/$ (i.e. go to schools – adults)
• Establish champions to model good behavior positive influence
• Establish a developer champion (Paul Pettipas)	

3.2 EXPERTISE

Theme Area 2: Expertise	
Key Issues	**Future Vision**
• Lack of knowledge • Lack of understanding of lake inter-connections • HRM must hire a limnologist • Lake limnologist • Climate Change Temperatures • Climate Change ○ Extreme weather events	• Limnologist in charge • Leadership enforcement, clarity of • Thought about impacts and addressed climate change
Potential Short Term Actions	
• Community college course on water management • Limnologist HRM - need staff • Hire more staff to enforce development sediment and erosion control • Floodplain mapping • Coastal mapping • Floodplain mapping 1/100 – 1/250	

3.3 PUBLIC ACCESS

Theme Area 3: Public Access	
Key Issues	**Future Vision**
• Lack of public access to water's edge.	• Opportunities for reclamation as public open space • Achieve Waterfront Accesses for all lakes • Higher public access • Public access to all watercourses! • Public access to water
Potential Short Term Actions	
• Protected Areas Less Development/Private Ownership • Private ownership of lake shore -- Need buffers that permit public access	

3.4 POLLUTION & SILTATION

Theme Area 4: Pollution & Siltation	
Key Issues	**Future Vision**
• Use of fertilizers phosphorus loading • Organics putting nutrients into water • Motorized Watercraft (out board) leaking fuel • Liming of our river! • Grass clippings, pesticides, car washing • Dog waste, pet waste • Ban high phosphorus fertilizers • Fertilizer use – phosphorus • More fertilizer use due to pesticide law • Developers don't control phosphorus, bury stumps, leave large piles of topsoil • Road Salt/Grit, oil (roads fronting on lakes) • Development impacts – sediment • Poor enforcement of sediment and erosion control – more accountability of developers • Land clearing • Less agriculture - water use more efficient! • Stop acid rain! HRM must be the lead!	• Clean lakes protected/polluted restored • Less garbage on our lakes and environments! • No doggy doo bags in catch basin • Swimming in all lakes
Potential Short Term Actions	
• Fertilizer ban like pesticide ban (e.g. too close to lake) • Low phosphate Filter By-law • Pass the HRM lot grading by-law (e.g. $5000/lot) • Updated lot grading By-law/Enforcement – Urban/Rural • Alternative to road salt. Best practices	

3.5 BIOPHYSICAL ENVIRONMENT

Theme Area 5: Biophysical Environment	
Key Issues	**Future Vision**

• Weed algae growth
• Impacts from the Put and take Fishery (Fish stocking)
  ○ Shoreline damage
  ○ Biological damage
• Invasive Species
  ○ Plants
  ○ Animals (beaver management)
  ○ Fish
  ○ Algae
• Development infilling of wetlands and lakes
• Development using up natural ecological features
• We would daylight our lost brooks – Sawmill River
	• Fit for life (aquatic and human)
	• High Quality Water for allowing high recreational contact, potable water supply and wildlife safe
	• Wildlife habitat intact
	• Natural fisheries
	• More fish and loons
	• Fish passage over dams
	• Natural fishery
	• More fish; more birds
	• Greater wetland protection
	• Day lighting of streams

Potential Short Term Actions	

• Prevent pigeons from nesting under highway bridge between Lake Banook and Lake MicMac
• Conduct an HRM wide culvert survey/fish passage
• Need biological water quality indicators e.g. Atlantic salmon
• Invasive Species Plan
  ○ Plants
  ○ Animals (beaver management)
  ○ Fish
  ○ Algae
• Enact adequate wetlands protection legislation in 2011
• More day lighting of streams	

3.6 WATER QUALITY MANAGEMENT

Theme Area 6: Water Quality Management	
Key Issues	**Future Vision**
• Old ideas in developments practices – past and present • People's activities in the watershed should be managed • We got to stop strangling out lakes – stop choking our lakes – inlet/outlet	• Clean lakes protected/polluted restored • Better understanding – more water testing – better information • Better information on lake water quality and quantity • Clean water highest possible water quality • Ability to swim safely all summer • Swimming in all lakes • Affected waterbodies restored to as close to natural state
Potential Short Term Actions	
• Defined water quality indicators based on CCME guidelines and recent data • Water Quality Regulations • Annual Lake Report • Water functional plan started! • Pay for mandatory drinking water – wells county • On-site well testing routine basis	

3.7 LAKESHORE MANAGEMENT

Theme Area 7: Lakeshore Management	
Key Issues	**Future Vision**

• Residential Development too close to shorelines
  ○ Clear cut of lots
  ○ Lawns to the lake/on-site erosion and drainage control (need for retention)
  ○ Silt control enforcement
	• More green space
	• Buffers around every lake
	• Trails next to water course – 30 meter buffers!
	• Re-vegetated buffer
	• Respect for natural systems e.g. wetlands (even ditches that perform an ecological function)
	• Enforcement of non-disturbance buffers around lakes
	• HRM owns the buffers
	• Buffers extended from 20 m to 30 m
	• Re-establishment of riparian buffers – greenbelts as filters
	• Aesthetically pleasing lakes

Potential Short Term Actions	
• Green belt connectivity- green belt HRM ownership! • Pass the urban forest plan planting trees • Urban Forest Plan? • Enforcement of green belt regulations • Stream/River gouging • Increase buffer to 30 meters from 20 meters!	

3.8 WASTEWATER MANAGEMENT

Theme Area 8: Wastewater Management	
Key Issues	**Future Vision**
• S.T.P. capacity need to monitor and expand – separate stormwater from sanitary system • Need for septic inspections and routine maintenance (waste water management plans) • Septic systems (density of them) (lack of maintenance) • Septic fields – malfunctions • Overflows from sewage pumping stations • i.e. 50 outflows in Lake Banook • Sewage overflows Mandatory pump of septic every 3 years!	• No coliform closures required • Not just beside lake, but whole sewer shed
Potential Short Term Actions	
• HRM should use the data on which homes have had their septic tanks pumped organized at the sewage lagoon • HRM should have infrared photos taken in the winter of the lakes to identify malfunctioning septic systems • H/W look after all septic plants • Catalogue and Record Septic System Pumping, Mandatory Reporting to HRM (create a database) • Wastewater Treatment Plans every 2 years – HRM to do! • Well maintained septic systems $$?? • Overflow Plans • Water meter on every home! – on site and on central sewer • Low flow – fixtures – incentives	

3.9 STORMWATER MANAGEMENT

Theme Area 9: Stormwater Management	
Key Issues	**Future Vision**
• Stormwater management issues • Contaminant discharges to catch basins • Pollutants carried by stormwater • Who is responsible for stormwater? HRM – Provincial – DFO?	• 100% on site water retention no run off! • More stormwater control – ponds/wetlands • Master Planning of stormwater • Stormwater treatment; end of pipe treatment • Less hard surfaces. More groundwater recharge. On site retention • Curb Trend on/No clear cutting • More permeable surface • Infiltration ponds/rain gardens • Keep SW on property • No silt run off. • Rain barrels on every downpipe spout
Potential Short Term Actions	
• Stormwater Management Plan required • Mandatory Stormwater Management Plan watershed basis • Proper sized culvert - on/off site stormwater management responsibility • Prioritize and advance Stormwater Management Plans • Ditch guidelines liner silt sites • Stormwater charge; county ditch tax – flood surface tax • Identify poor stormwater design and start fixing the problems • Stormwater Functional Plan – urban/rural • Create and implement plan to clean and inspect storm sewers on a scheduled basis • Permeable surfaces tax credits/incentives • Net 0 development – on-site retention • Incentives for conservation/stormwater management ($ rates) • Hard surface tax • On redevelopment of building sites decrease storm water runoff to 100% instead of 25% now on site retention • Solve permeable parking surfaces	

3.10 GOVERNMENT & JURISDICTION

Theme Area 10: Government & Jurisdiction	
Key Issues	**Future Vision**
• Government Agencies lack of coordination in practices • Clear cut authority • Overlapping jurisdiction • Individual ownership of personal impacts (responsibility) • Overlapping jurisdiction • Lack of Funding to Undertake Improvements	• Proactive management by government e.g. Dept. of Transportation/H.W. Public Works • Department to champion P2 section • More stuff for HRM Sustainable Management Office • Coordination of Government Departments • Designating a responsible agency to take the lead on development projects
Potential Short Term Actions	
• Government follows rules too; lead by example • Water governance model • Provincial water strategy implementation • Watershed management (community??? Lake management) • Watershed Management Groups funded and supported by HRM!	

3.11 POLICY AND REGULATIONS

Theme Area 11: Policy & Regulations	
Key Issues	**Future Vision**
• Regulatory and enforcement gaps • Inconsistent and inadequate regulations • Lack of legislation • Lack of adequate wetlands protection legislation • Poor land-use practices • Road Construction Guidelines – wide and does not promote conservation	• Strong regulations and adequate enforcement • Watershed management groups with regulatory power (Ontario Example) • Regulations are reviewed and enforced • Watershed based regulations. • Adequate legislation with teeth • Even distribution of use of lakes (no overloading of usage of any one lake)
Potential Short Term Actions	
• Networking/discussion between regulatory agencies • Identify/adopt/share Best Management Practices • Make rules clear on building permits • Green the Red Book! • Implement past and current plans • Green the Red Book • Change MPS is to become watershed boundary development plans • LEED buildings standards!	

4.0 Summary of Actions by Theme Area

The input gathered from the workshop was further analyzed by theme area, and key actions were pulled which are outlined in the table below. Forty key actions were identified. It is important to note that these actions were not validated or prioritized during the workshop as there was not sufficient time. These actions should be subject to further review and interpretation by the workshop participants.

4.1 INTERPRETED ACTIONS BY THEME AREA

Summary of Actions by Theme Area	
1. Education	
Actions	**Ideas**

Action 1: Develop an education and awareness campaign/s.	• Potential Topics
	  ○ Watershed Impacts
	  ○ Wise practices around freshwater
	  ○ Use of harmful materials/identifying harmful activities
	• Potential Target Audiences
	  ○ New and existing waterfront property owners
	  ○ General Public
	  ○ Students/school system
	• Potential Partners/Facilitators/Contributors

	○ HRWC ○ NSE ○ DFO ○ Education/Campaign Coordinator (new position)
Action 2: Identify champions in lake protection.	• Establish champions to model good behavior positive influence ○ Establish a developer champion (Paul Pettipas) ○ Establish Champions for individual lakes
2. Expertise	
Actions	**Ideas**
Action 3: Identify additional HRM resources needed to engage in the protection of lakes and address critical knowledge gaps with new hires.	• Potential types of expertise identified ○ Limnologist/Limnology ○ Enforcement of sediment and erosion control plans
Action 4: Partner with NSCC to develop a special community college course on water resource management to help fill key knowledge gaps.	• Potential knowledge gaps identified ○ Lack of understanding of lake interconnections ○ Climate change impacts (temperatures/extreme weather events) ○ Limnology
Action 5: Develop new mapping resources to help in understanding the potential impacts of climate change.	• Potential Mapping identified ○ Floodplain mapping ○ Coastal mapping ○ Floodplain mapping 1/100 – 1/250
3. Public Access	
Actions	**Ideas**
Action 6: Identify and implement mechanisms through which HRM can maintain public access to shoreline.	• Protected Areas Less Development/Private Ownership • Private ownership of lake shore -- Need buffers that permit public access
4. Pollution & Siltation	
Actions	**Ideas**
Action 7: Revise Lot Grading Bylaw to consider key water resource management issues.	• Pass the HRM lot grading by-law (e.g. $5000/lot) • Updated lot grading By-law/Enforcement – Urban/Rural
Action 8: Develop a ban on the use of fertilizers similar to the pesticide ban.	• Low phosphate Filter By-law • fertilizer ban like pesticide ban (e.g. too close to lake)
Action 9: Develop best management practices around use of road salt.	• Alternative to road salt. Best practices
5. Biophysical Environment	
Actions	**Ideas**
Action 10: Develop biological water quality indicators.	• Need biological water quality indicators e.g. Atlantic salmon

Action 11: Develop an Invasive Species Plan for specific lakes.	• Prevent pigeons from nesting under highway bridge between Lake Banook and Lake MicMac
	• Species management
	  ○ Plants
	  ○ Animals (beaver management)
	  ○ Fish
	  ○ Algae

Action 12: Identify streams that could be daylighted and develop a program for restoration.	• More day lighting of streams
Action 13: Conduct a survey of culverts to determine which are facilitating/hampering fish passage.	• Conduct an HRM wide culvert survey/fish passage
Action 14: Identify HRM priorities for wetland protection relative to water resource management and work with the Province to facilitate adequate wetland protection.	• Enact adequate wetlands protection legislation in 2011
6. Water Quality Management	
Actions	**Ideas**
Action 15: Develop and deliver HRM Annual Lake Report.	• Education and better understanding of water quality
Action 16: Review HRM Water Quality Monitoring Functional plan to define water quality indicators and implement plan.	• Defined water quality indicators based on CCME guidelines and recent data • Water functional plan started!
Action 17: Determine if there is a need for water quality indicators for specific lakes, and develop water quality regulations to support protection.	• Water Quality Regulations
7. Lakeshore Management	
Actions	**Ideas**
Action 18: HRM to ensure green belt connectivity by gaining ownership of key green belt areas.	• Green belt connectivity- green belt HRM ownership!
Action 19: Develop better enforcement measures for management of activities within water body setback/buffer.	• Enforcement of green belt regulations • Stream/River gouging
Action 20: Increase the current water body setback/buffer from 20 m to 30 m.	• Increase buffer to 30 meters from 20 meters!
Action 21: Update community on status of and pass the Urban Forest Master Plan.	• Pass the urban forest plan planting trees • Urban Forest Plan?
8. Wastewater Management	
Actions	**Ideas**
Action 22: Develop mechanisms for encouraging reduction in water use.	• Water meter on every home! – on site and on central sewer • Low flow – fixtures – incentives
Action 23: Develop methods/plans for managing	• Overflow Plans

wastewater treatment facilities/plants that are malfunctioning.	• H/W look after all septic plants • Wastewater Treatment Plans every 2 years – HRM to do!
Action 24: Develop methods/plans for managing onsite wastewater treatment systems that are malfunctioning.	• Catalogue and Record Septic System Pumping, Mandatory Reporting to HRM (create a database) • HRM should have infrared photos taken in the winter of the lakes to identify malfunctioning septic systems • Well maintained septic systems $$?? • HRM should use the data on which homes have had their septic tanks pumped organized at the sewage lagoon
9. Stormwater Management	
Actions	**Ideas**
Action 25: Develop a list of areas experiencing stormwater management issues and develop a priority action plan to address.	• Identify poor stormwater design and start fixing the problems
Action 26: Develop stormwater management plans on a watershed basis.	• Stormwater Management Plan required • Mandatory Stormwater Management Plan watershed basis • Prioritize and advance Stormwater Management Plans • Stormwater Functional Plan – urban/rural
Action 27: Create and implement plan to clean and inspect storm sewers on a scheduled basis.	• Create and implement plan to clean and inspect storm sewers on a scheduled basis
Action 28: Review stormwater management design requirements, in particular culvert sizing, ditch design, and long term responsibility for infrastructure.	• Proper sized culvert - on/off site stormwater management responsibility • Ditch guidelines liner silt sites • Stormwater charge; county ditch tax – flood surface tax
Action 29: Review stormwater management design requirements and develop a requirement for 100% on site retention.	• Net 0 development – on-site retention • Incentives for conservation/stormwater management ($ rates) • On redevelopment of building sites decrease storm water runoff to 100% instead of 25% now on site retention
Action 30: Develop incentives to encourage the reduction of hard surfaces in development.	• Permeable surfaces tax credits/incentives • Hard surface tax
Action 31: Identify the barriers to use of permeable surface areas and develop mechanisms to reduce barriers and encourage greater use within HRM.	• Solve permeable parking surfaces
10. Government & Jurisdiction	
Actions	**Details**
Action 32: Identify opportunities for improvement in the management of water resources within HRM's internal practices.	• Government follows rules too; lead by example
Action 33: Work with the Province to implement the water strategy within HRM.	• Provincial water strategy implementation
Action 34: Review watershed management models and develop a more community oriented process towards watershed stewardship and governance.	• Watershed management (community??? Lake management) • Water governance model • Watershed Management Groups funded and supported by HRM!

11. Policy & Regulations	
Actions	**Details**
Action 35: Initiate meeting between key agencies involved in water resource management to identify, share and adopt Best Management Practices.	• Networking/discussion between regulatory agencies • Identify/adopt/share Best Management Practices
Action 36: Initiate review of Red Book to include standards for green infrastructure design.	• Green the Red Book • Green the Red Book!
Action 37: Identify and champion use of green building standards, in particular those focused on more sustainable water management practices.	• LEED buildings standards!
Action 38: Review Secondary Planning strategies to include watershed specific boundaries/plan on a watershed basis.	• Change MPS is to become watershed boundary development plans
Action 39: Provide update on the status of past and current plans to understand key barriers to implementation of more sustainable water resource management.	• Implement past and current plans
Action 40: Review and identify weaknesses/areas for change as to how key water resource management practices (i.e.: stormwater management/erosion and sedimentation control) are tied into the building permit process/permitting process.	• Make rules clear on building permits

5.0 Appendices

APPENDIX A Workshop Invitation
APPENDIX B Workshop Participants
APPENDIX C Presentation
APPENDIX D Original Results
APPENDIX E Interpreted Results

APPENDIX A

Workshop Invitation

Invitation: Protecting our Lakes

Who: Halifax Regional Municipality, Sustainable Environment Management Office

What: Identify policy opportunities to better protect our lake ecosystems

When: **May 19, 2011; 7:00 PM to 9:00 PM**

Where: **Mic Mac Amateur Aquatic Club, 192 Prince Albert Road**

Why: **To respond to HRM Environment and Sustainability Committee Motion:** ***that the Environment and Sustainability Committee direct staff to provide a report outlying the short term policy opportunities for HRM lakes.***

The facts are simple within Halifax Regional Municipality (HRM):

- Development and encroachment on water resources increases stress to our freshwater ecosystems, in particular our lakes.
- Recent Water Quality Monitoring Data demonstrates the declining health of our lakes.
- Well designed policies have the potential to mitigate or eliminate negative ecological impacts.

We are fortunate to have many knowledgeable, passionate, and committed residents wishing to protect our water resources.

The intent of this meeting is to enable interested and knowledgeable parties the opportunity to voice recommendations on how to enhance management and protection of lake ecosystems within HRM.

These recommendations will be consolidated into a summary report for the Environment and Sustainability Committee, which will also identify the key attributes of a community driven policy framework.

You have been identified as a subject matter resource and we would like to solicit your participation in this exercise. We would respectfully request your participation in two ways:

1. Providing a written submission of your recommendations by May 12th ;
2. Participating in a facilitated session on May 19th to assist in consolidating these recommendations.

Kate Greene from Stantec has been contracted to facilitate this session and provide a summation report to the Sustainable Environment Management Office (SEMO). Kate's contact formation is: e-mail: kate.greene@stantec.com, phone: 902-468-7777.

The result of this work will be a report to the Environment and Sustainability Committee with a summation of the community recommendations and a recommendation from HRM Staff regarding how recommendations should progress (i.e. Regional Plan Review, Storm Water Management Functional Plan, Creation of new Bylaws, Recommendations to Province, etc.).

If you are attending this session please do the following:

1. RSVP to Kate Greene by May 12th;
2. Send your written submission to Kate Greene by May 12th

Contact Information:

Halifax Regional Municipality
Sustainable Environment Management Office
Richard MacLellan
E-mail: maclelri@halifax.ca
Phone: 490-6056

Stantec
Kate Greene
E-mail: kate.greene@stantec.com
Phone: 902-468-7777

Thank you,

Richard MacLellan, Manager
Sustainable Environment Management Office

APPENDIX B

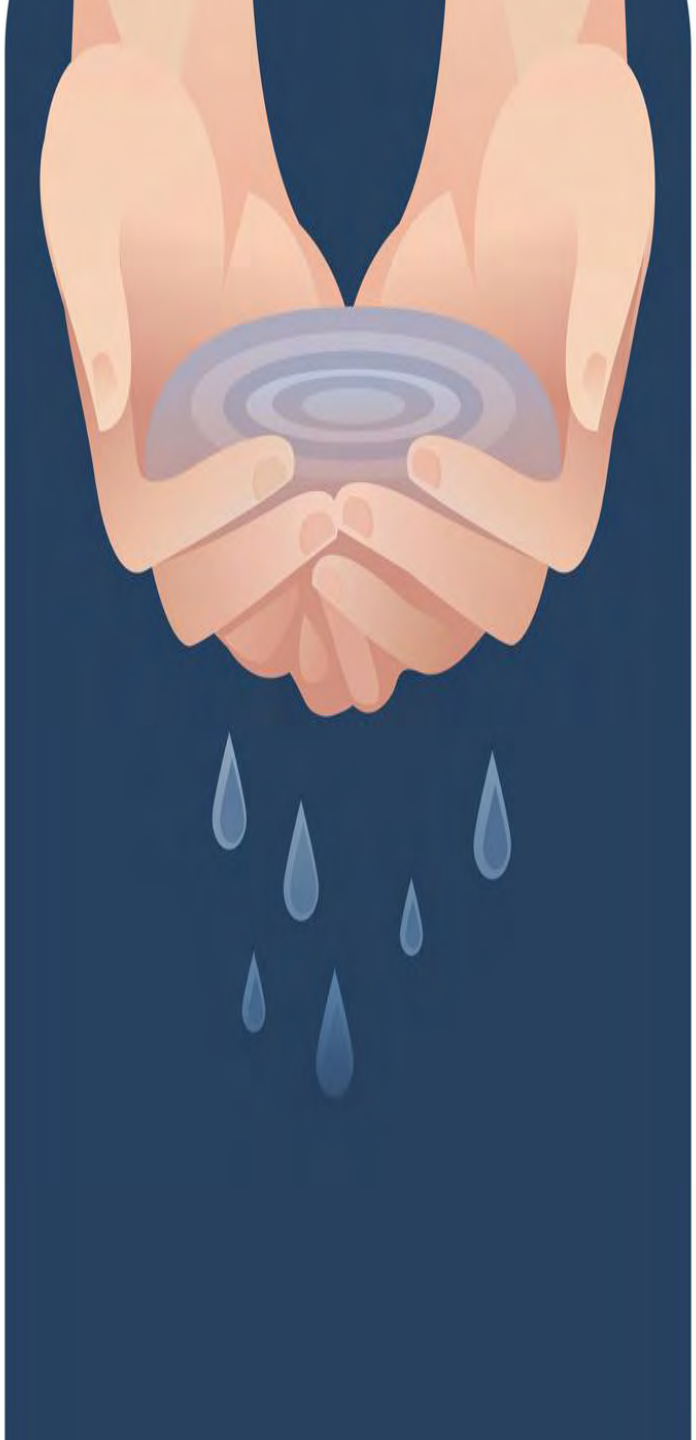
Workshop Participants

Sign-in Sheet

	Name	Contact
1.	Tom Mills	883-8127
2.	Paul Turner	paulmlturner@gmail.com
3.	Walter N. Regan	wregan@eastlink.ca
4.	Dusan Souder	souderd@ns.sympatico.ca
5.	Fred Wendt	water@ecologyaction.ca
6.	Anna McCarron	amccarron@ns.sympatico.ca 861-3624
7.	Norman Steele	nsteele@eastlink.ca
8.	Bob Rutherford	Bobrutherford@accesswave.ca
9.	Kenda MacKenzie	mackenk@halifaxwater.ca
10.	Pierre Clement	psclement@eastlink.ca
11.	Nancy Webber	nwebber@clean.ns.ca
12.	David and Peter Lombardi	dlombardi@seafortheng.ca
13.	Bernie Hart	bhart@ca.inter.net
14.	David Hendsbee, HRM Councillor	David.hendsbee@halifax.ca

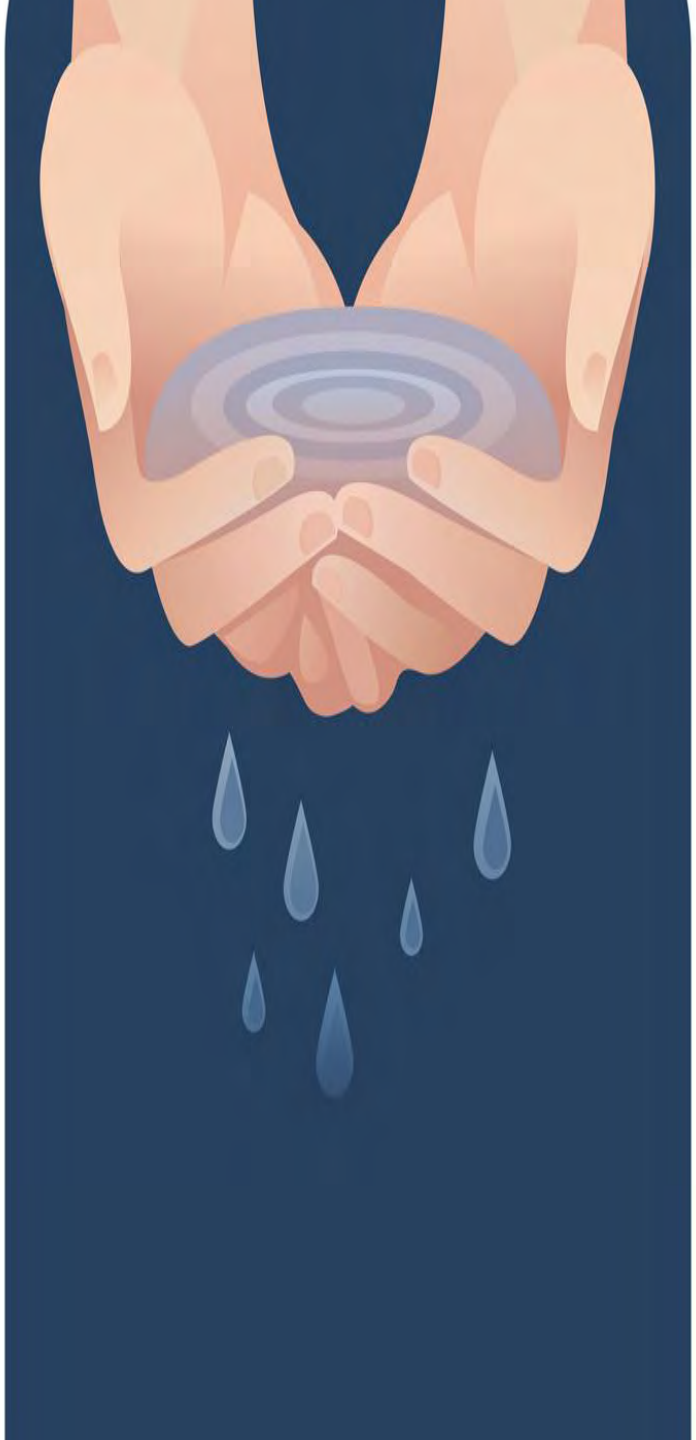
APPENDIX C

Presentation



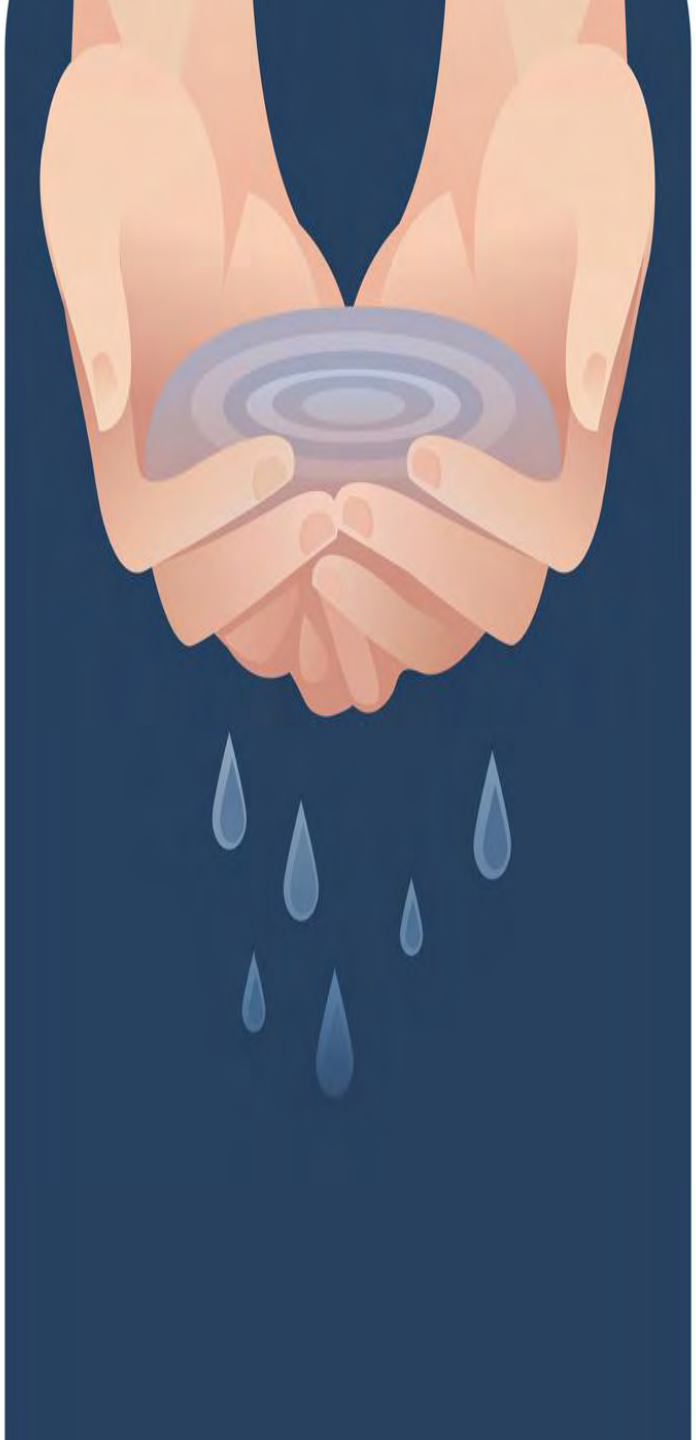
‘Protecting Our Lakes’

Stantec



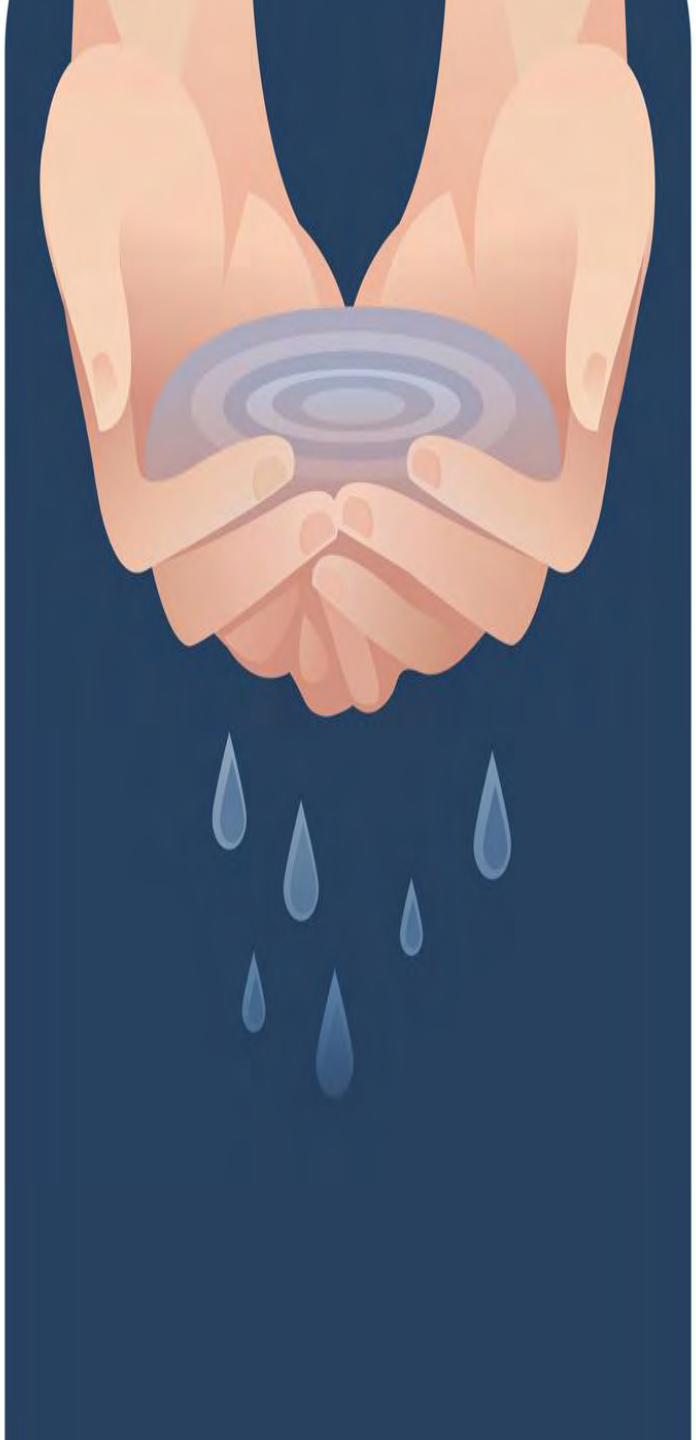
Our Purpose

To bring together interested and knowledgeable parties to provide an opportunity to voice recommendations on short term steps to **enhance management and protect lake ecosystems within HRM.**



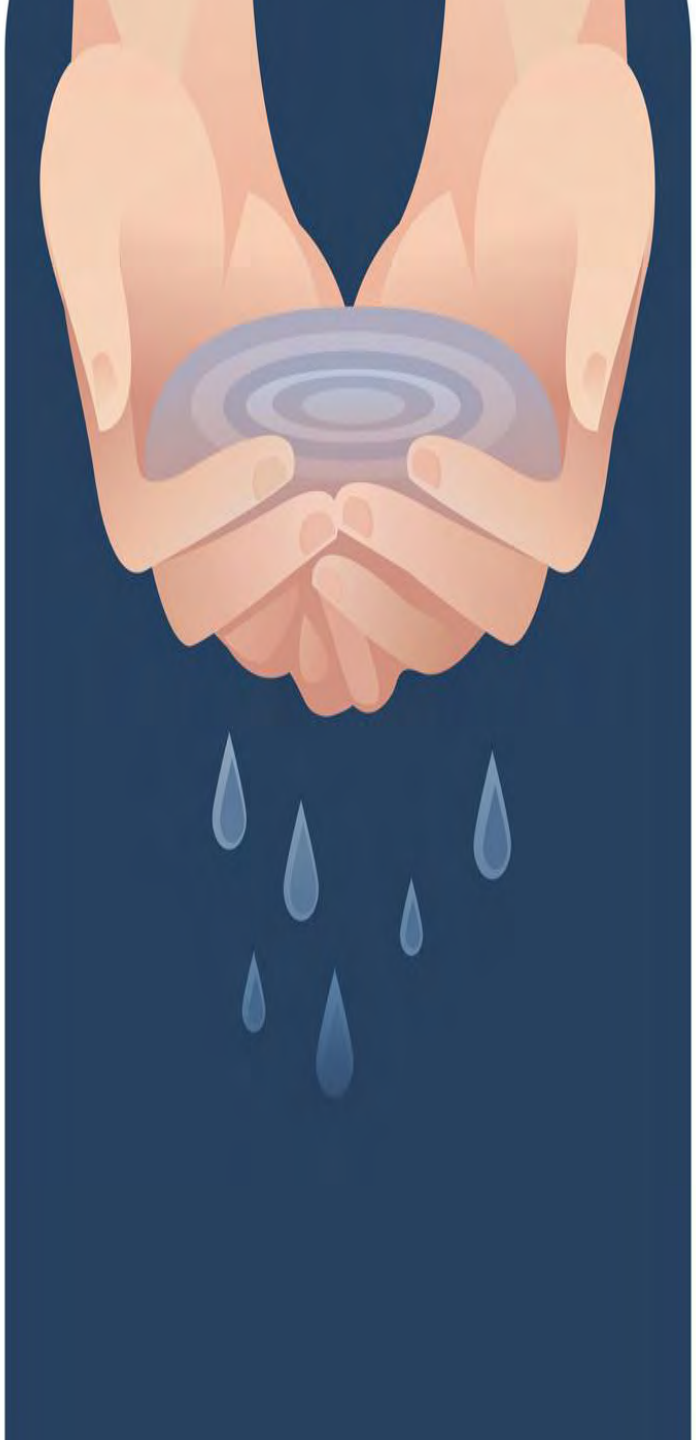
Introductions

- Name
- Organization
- Favorite Lake or Water Memory



Our Outcomes

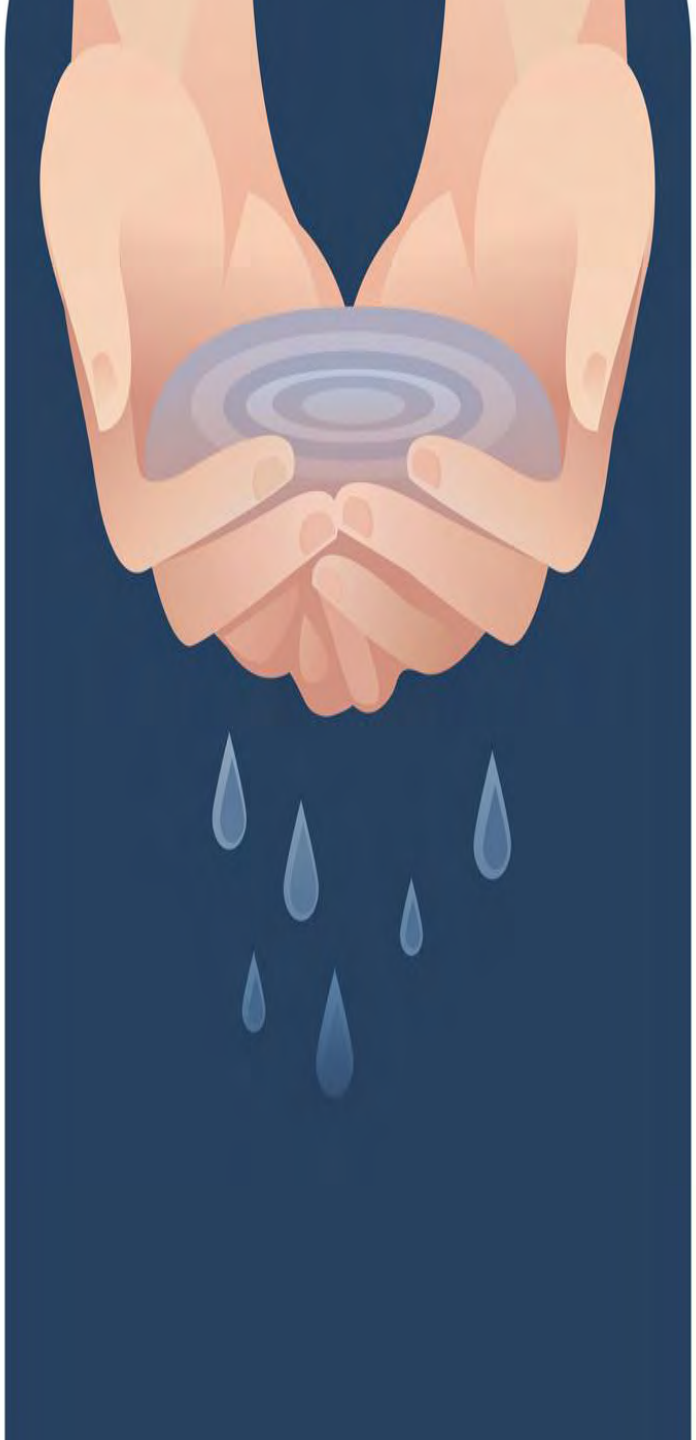
- Generate a summation of Community Recommendations.
- To use the ideas generated by this group to inform other lake related policy work being undertaken in HRM.

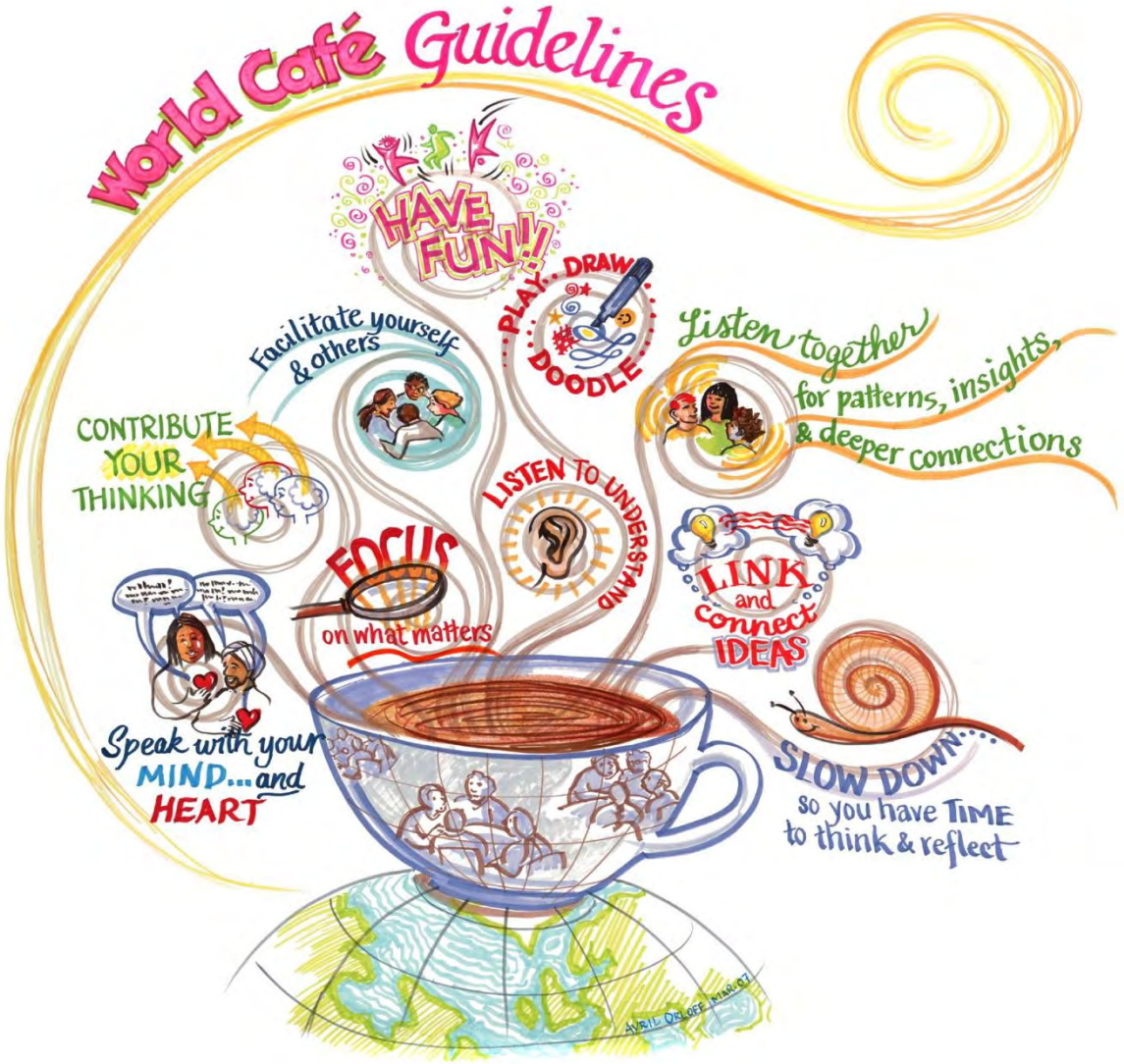


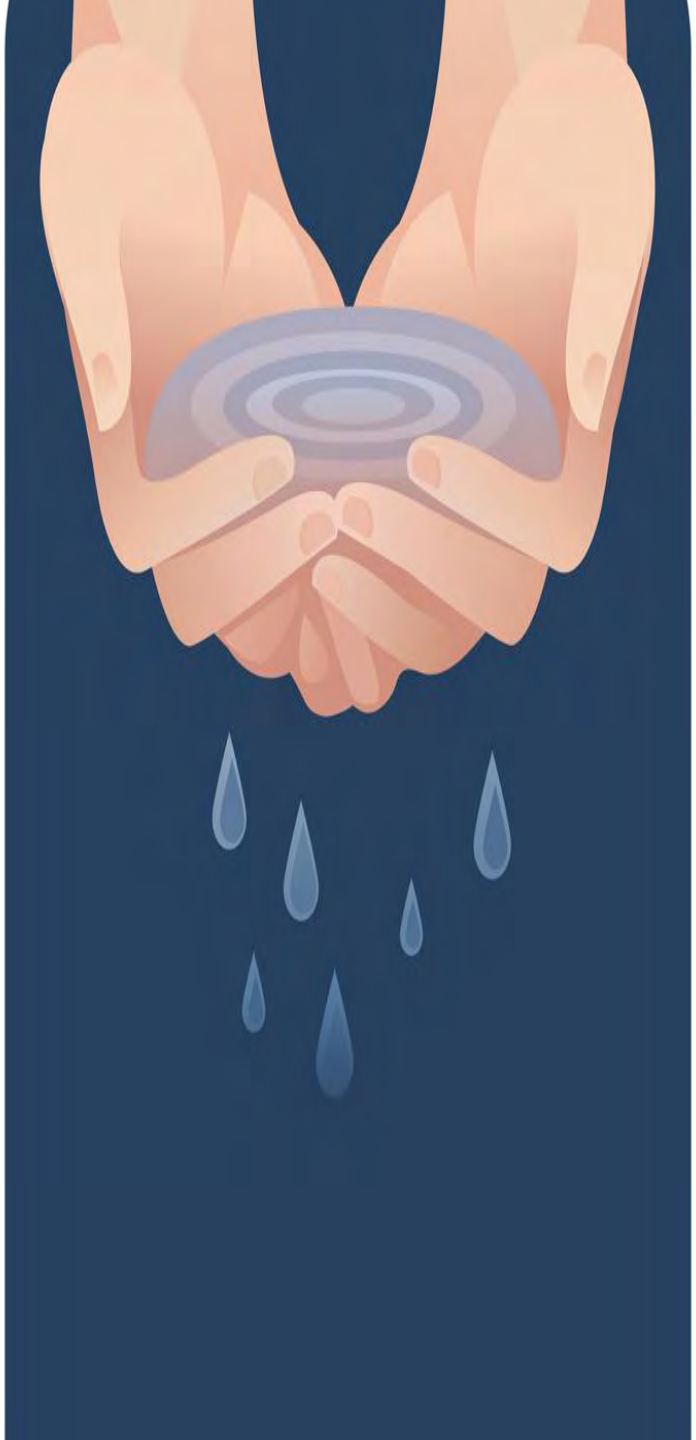
Our Priority Today

Action to take place in the near term.

What are the things we can do now or begin now that will deliver benefits?

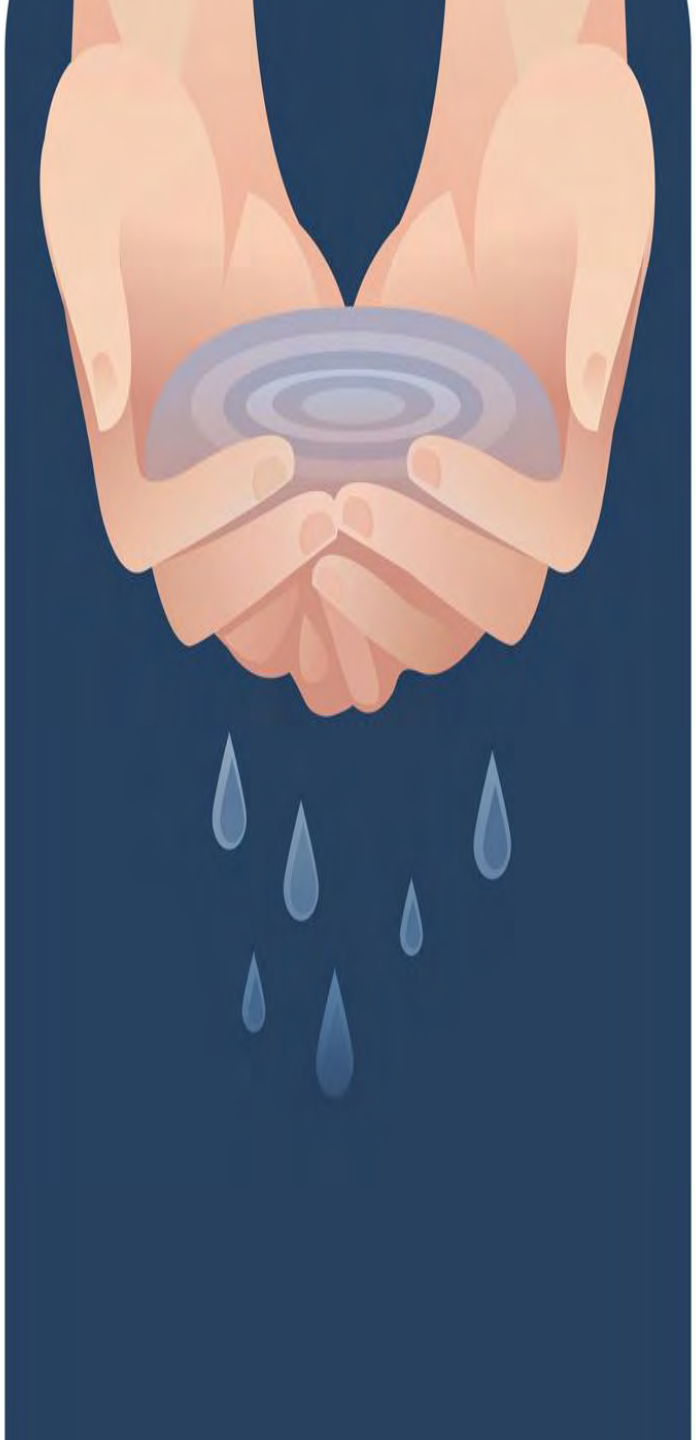



World Café Guidelines
HAVE FUN!!
PLAY... DRAW
DOODLE
Facilitate yourself & others
CONTRIBUTE YOUR THINKING
Listen together for patterns, insights, & deeper connections
LISTEN TO UNDERSTAND
FOCUS on what matters
LINK and connect IDEAS
Speak with your MIND... and HEART
SLOW DOWN... so you have TIME to think & reflect



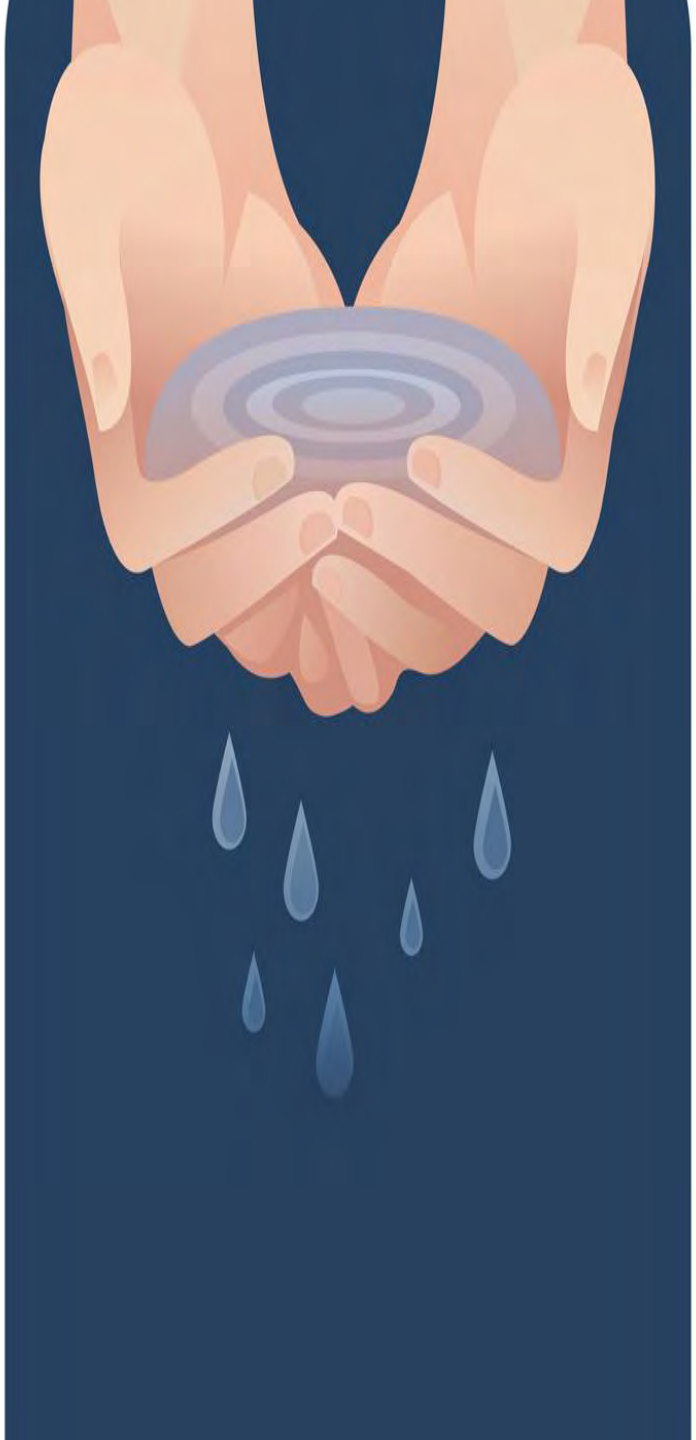
Question 1:

- **What is causing impacts to our lakes?**
  - *What are the biggest looming challenges?*
  - *What are the root causes of these problems?*



Question 2:

- ***What would the desired outcome look like/be if these impacts were being addressed?***



Question 3:

- ***What are the things we can do in the short run to address the impacts and move us toward our desired outcomes?***

APPENDIX D

Original Results

Original Answers of Participants HRM Protect Our Lakes Workshop I
May 19, 2011
File No 121510719

Responses to Question 1:

What is causing impacts to our lakes? *What are the biggest looming challenges? What are the root causes of these problems?*

- Motorized Watercraft (out board) leaking fuel
- People's activities in the watershed
- Weed algae growth
- Impacts from the Put and take Fishery (Fish stocking)
  - Shoreline damage
  - Biological damage
- Invasive Species Plan
  - Plants
  - Animals (beaver management)
  - Fish
  - Algae
- Climate Change Temperatures
- Climate Change
  - Extreme weather events
- Watershed Management Groups funded and supported by HRM!
- Lack of Funding to Undertake Improvements
- Public Ignorance of opportunities to participate in lake protections – education!!
- Lack of stewardship sense of ethic and responsibility
- Regulatory and enforcement gaps
- Inconsistent and inadequate regulations
- Lack of legislation
- Lack of adequate wetlands protection legislation
- Poor land-use practices
- Stormwater management issues
- Contaminant discharges to catch basins
- On redevelopment of building sites decrease storm water runoff to 100% instead of 25% now on site retention
- Pollutants carried by stormwater
- Lack of knowledge
- Lack of understanding of lake inter-connections
- HRM must hire a limenogist lake monogist ????
- S.T.P. capacity need to monitor and expand – separate stormwater from sanitary system
- Need for septic inspections and routine maintenance (waste water management plans)
- Septic systems (density of them) (lack of maintenance)
- Septic fields – malfunctions
- Overflows from sewage pumping stations
- *i.e.* 50 outflows in Lake Banook
- Sewage overflows
- Mandatory pump of septic every 3 years!
- Old ideas in developments practices – past and present
- Development impacts – sediment
- Residential Development too close to shorelines
  - Clear cut of lots
  - Lawns to the lake/on-site erosion and drainage control (need for retention)
  - Silt control enforcement
- Poor enforcement of sediment and erosion control – more accountability of developers
- Land clearing
- Development infilling of wetlands and lakes
- Development using up natural ecological features
- Government Agencies lack of coordination in practices

Original Answers of Participants HRM Protect Our Lakes Workshop I
May 19, 2011
File No 121510719

- Clear cut authority
- Overlapping jurisdiction
- Individual ownership of personal impacts (responsibility)
- Overlapping jurisdiction
- Use of fertilizers phosphorus loading
- Organics putting nutrients into water
- Grass clippings, pesticides, car washing
- Dog waste, pet waste
- Ban high phosphorus fertilizers
- Fertilizer use – phosphorus
- More fertilizer use due to pesticide law
- Developers don't control phosphorus, bury stumps, leave large piles of topsoil
- Road Salt/Grit, oil (roads fronting on lakes)

Responses to Question 2:
What would the desired outcome look like/be if these impacts were being addressed?

- Overflow Plans
- Even distribution of use of lakes (no overloading of usage of any one lake)
- Road Construction Guidelines – wide and does not promote conservation
- No silt run off!
- We need a biological water quality indicators *e.g.* Atlantic salmon
- Increase buffer to 30 meters from 20 meters!
- Annual Lake Report
- Pass the lot grading by-law (*e.g.* $5,000 per lot – Bond!
- Green the Red Book
- Hard surface tox
- Enforcement of non-disturbance buffers around lakes
- HRM ideally own the buffer
- Extend buffer from 20 m to 30 m
- Allow for 'Water Removal Permits" to draw out/high volumes when excess water is available
- Change MPS is to become watershed boundary development plans
- Encourage re-establishment of Riparian buffers – greenbelts as filters
    - Rain barrels on every downpipe spout
- Private ownership of lake shore. Need buffers that permit public access
- Thought about? Addressed climate change
- We got to stop strangling out lakes – stop choking our lakes – inlet/outlet
- Educated lake front owners/public responsibility
- Designating a responsible agency to take the lead on development projects
- Wildlife habitat intact
- Natural fisheries
- Conduct an HRM wide culvert survey/fish passage
- More fish and loons
- Fish passage over dams
- Natural fishery
- More fish; more birds
- Respect and understanding of importance of water resources
- More education on wise practices around freshwater
- Knowledgeable residents valuing lakes (school curriculum)

Original Answers of Participants HRM Protect Our Lakes Workshop I
May 19, 2011
File No 121510719

- Better water education, especially for kids!
- Higher community connection to the environment
- Responsible developers
- Limnologist in charge
- Need a water champion
- Every lake has a champion(s)
- Leadership enforcement, clarity of jurisdiction
- More green space
- Buffer around every lake
- Trails next to water course – 30 meter buffers!
- Re-vegetated buffer
- Respect for natural systems *e.g.* wetlands (even ditches that perform an ecological function)
- Proactive management by government *e.g.* Dept. of Transportation/H.W. Public Works
- Department to champion P2 section
- More stuff for HRM Sustainable Management Office
- Coordination of Government Departments
- Less garbage on our lakes and environments!
- No doggy doo bags in catch basin
- No coliform closures required
- Not just beside lake, but whole sewer shed
- Well maintained septic systems $$??
- 100% on site water retention no run off!
- More stormwater control – ponds/wetlands
- Master Planning of stormwater
- Solve permeable parking surfaces
- Stormwater treatment; end of pope treatment
- Less hard surfaces. More groundwater recharge. On site retention
- Curb Trend on/no clear cutting
- More permeable surface
- Infiltration ponds/rain gardens
- Keep SW on property
- We would daylight our lost brooks – Sawmill River
- More day lighting of streams
- Affected waterbodies restored to as close to natural state
- Day lighting of streams
- Water function and plan started!
- High Quality Water for allowing high recreational contact, potable water supply and wildlife safe
- Fit for life (aquatic and human)
- Liming of our river! Stop acid rain! HRM must be the lead!
- Less agriculture water use more efficient!
- Clean lakes protected/polluted restored
- Better understanding – more water testing – better information
- Better information on lake water quality and quantity
- Clean water highest possible water quality
- LEED buildings standard!
- Strong regulations and adequate enforcement
- Watershed management groups with regulator power (Ontario example)

- Regulations are reviewed and enforced
- Adequate legislation with teeth
- Greater wetland protection
- Aesthetically pleasing lakes
- Coastal mapping
- Floodplain mapping 1/100 – 1/250
- Protected Areas Less Development/Private Ownership
- Opportunities for reclamation as public open space
- Higher public access
- Public access to all watercourses!
- Public access to water
- Ability to swim safely all summer
- Swimming in all lakes

Responses to Question 3:

What are the things we can do in the short run to address the impacts and move us toward our desired outcomes?

- Education and awareness campaign targeted at new waterfront property owners
- Defined water quality indicators based on CCME guidelines and recent data
- Community college course on water management
- HRM should use the data on which homes have had their septic tanks pumped organized at the sewage lagoon
- Government follows rules too; lead by example
- Water governance model
- Water awareness; public education program
- Education – Education – Education
- Networking/discussion between regulatory agencies
- Establish a developer champion (Paul Pettipas)
- HRM should have infrared photos taken in the winter of the lakes to identify malfunctioning septic systems
- Identify/adopt/share Best Management Practices
- Fertilizer ban like pesticide ban (*e.g.* too close to lake)
- Enact adequate wetlands protection legislation in 2011
- Stormwater Management Plan required
- Provincial water strategy implementation
- Incentives for conservation/stormwater management ($ rates)
- Water Quality Regulations
- Establish champions to model good behavior positive influence
- Low flow – fixtures – incentives
- Who is responsible for stormwater? HRM – Provincial – DFO ?
- Green belt connectivity - green belt HRM ownership!
- Floodplain mapping
- Low phosphate Filter By-law
- Mandatory Stormwater Management Plan watershed basis
- Limnologist HRM needs staff
- Public education – on watershed impacts
- On-site well testing routine basis!
- Proper sized culvert on/off site stormwater management responsibility
- H/W look after all septic plants
- Prioritize and advance Stormwater Management Plans
- Ditch guidelines liner silt sites

Original Answers of Participants HRM Protect Our Lakes Workshop I
May 19, 2011
File No 121510719

- Stormwater charge; county ditch tox – flood surface tox
- Identify poor stormwater design and start fixing the problems
- Water meter on every home! – on site and on central sewer
- Pay for mandatory drinking water – wells county
- Pass the urban forest plan planting trees
- Hire more staff to enforce development sediment and erosion control
- Stormwater Functional Plan – urban/rural
- Pass the HRM lot grading by-law (*e.g.* $5000/lot)
- Updated lot grading By-law/Enforcement – Urban/Rural
- Alternative to road salt. Best practices
- Public Education
  - HRWC
  - NSE
  - DFO

  Needs a coordinator/$ (i.e. go to schools – adults)
- Urban Forest Plan?
- Make rules clear on building permits
- Watershed management (community??? Lake management)
- Green the Red Book!
- Catalogue and Record Septic System Pumping, Mandatory Reporting to HRM (create a database)
- Net 0 development – on-site retention
- Implement past and current plans
- Create and implement plan to clean and inspect storm sewers on a scheduled basis
- Wastewater Treatment Plans every 2 years – HRM to do!
- Prevent pigeons from nesting under highway bridge between Lake Banook and Lake MicMac
- Enforcement of green belt regulations
- Stream/River gouging
- Achieve Waterfront Accesses for all lakes
- Permeable surfaces tax credits/incentives

APPENDIX E

Interpreted Results

Workshop Results Interpreted into Theme Areas HRM Protect Our Lakes Workshop I
May 19, 2011
File No 121510719

Question 1: What is causing impacts to our lakes? *What are the biggest looming challenges? What are the root causes of these problems?*

Education	Expertise	Public Access	Pollution & Siltation	Biophysical Environment	Water Quality Management	Lakeshore Management	Wastewater Management	Stormwater Management	Government &Jurisdiction	Policy & Regulations
• Public Ignorance of opportunities to participate in lake protections – education!! • Lack of stewardship sense of ethic and responsibility • Need water champion	• Lack of knowledge • Lack of understanding of lake inter-connections • HRM must hire a limnologist • Lake limnologist • Climate Change Temperatures • Climate Change o Extreme weather events	• Lack of public access to water's edge.	• Use of fertilizers phosphorus loading • Organics putting nutrients into water • Motorized Watercraft (out board) leaking fuel • Liming of our river! • Grass clippings, pesticides, car washing • Dog waste, pet waste • Ban high phosphorus fertilizers • Fertilizer use – phosphorus • More fertilizer use due to pesticide law • Developers don't control phosphorus, bury stumps, leave large piles of topsoil • Road Salt/Grit, oil (roads fronting on lakes) • Development impacts – sediment • Poor enforcement of sediment and erosion control – more accountability of developers • Land clearing • Less agriculture - water use more efficient! • Stop acid rain! HRM must be the lead!	• Weed algae growth • Impacts from the Put and take Fishery (Fish stocking) o Shoreline damage o Biological damage • Invasive Species o Plants o Animals (beaver management) o Fish o Algae • Development infilling of wetlands and lakes • Development using up natural ecological features • We would daylight our lost brooks – Sawmill River	• Old ideas in developments practices – past and present • People's activities in the watershed should be managed • We got to stop strangling out lakes – stop choking our lakes – inlet/outlet	• Residential Development too close to shorelines o Clear cut of lots o Lawns to the lake/on-site erosion and drainage control (need for retention) o Silt control enforcement	• S.T.P. capacity need to monitor and expand – separate stormwater from sanitary system • Need for septic inspections and routine maintenance (waste water management plans) • Septic systems (density of them) (lack of maintenance) • Septic fields – malfunctions • Overflows from sewage pumping stations • i.e. 50 outflows in Lake Banook • Sewage overflows • Mandatory pump of septic every 3 years!	• Stormwater management issues • Contaminant discharges to catch basins • Pollutants carried by stormwater • Who is responsible for stormwater? HRM – Provincial – DFO?	• Government Agencies lack of coordination in practices • Clear cut authority • Overlapping jurisdiction • Individual ownership of personal impacts (responsibility) • Overlapping jurisdiction • Lack of Funding to Undertake Improvements	• Regulatory and enforcement gaps • Inconsistent and inadequate regulations • Lack of legislation • Lack of adequate wetlands protection legislation • Poor land-use practices • Road Construction Guidelines – wide and does not promote conservation

Question 2 : What would the desired outcome look like/be if these impacts were being addressed?

Education	Expertise	Public Access	Pollution & Siltation	Biophysical Environment	Water Quality Management	Lakeshore Management	Wastewater Management	Stormwater Management	Government &Jurisdiction	Policy & Regulations
• Respect and understanding of importance of water resources • More education on wise practices around freshwater • Knowledgeable residents valuing lakes (school curriculum) • Better water education, especially for kids! • Higher community connection to the environment • Responsible developers • Educated lake front owners/public responsibility • Every lake has a	• Limnologist in charge • Leadership enforcement, clarity of • Thought about impacts and addressed climate change	• Opportunities for reclamation as public open space • Achieve Waterfront Accesses for all lakes • Higher public access • Public access to all watercourses! • Public access to water	• Clean lakes protected/polluted restored • Less garbage on our lakes and environments! • No doggy doo bags in catch basin • Swimming in all lakes	• Fit for life (aquatic and human) • High Quality Water for allowing high recreational contact, potable water supply and wildlife safe • Wildlife habitat intact • Natural fisheries • More fish and loons • Fish passage over dams • Natural fishery • More fish; more birds • Greater wetland protection • Day lighting of streams	• Better understanding – more water testing – better information • Better information on lake water quality and quantity • Clean water highest possible water quality • Ability to swim safely all summer • Affected waterbodies restored to as close to natural state	• More green space • Buffers around every lake • Trails next to water course – 30 meter buffers! • Re-vegetated buffer • Respect for natural systems e.g. wetlands (even ditches that perform an ecological function) • Enforcement of non-disturbance buffers around lakes • HRM owns the buffers • Buffers extended from 20 m to 30 m • Re-establishment of riparian buffers –	• No coliform closures required • Not just beside lake, but whole sewer shed	• 100% on site water retention no run off! • More stormwater control – ponds/wetlands • Master Planning of stormwater • Stormwater treatment; end of pipe treatment • Less hard surfaces. More groundwater recharge. On site retention • Curb Trend on/No clear cutting • More permeable surface • Infiltration ponds/rain gardens • Keep SW on property • No silt run off.	• Proactive management by government e.g. Dept. of Transportation/H.W. Public Works • Department to champion P2 section • More stuff for HRM Sustainable Management Office • Coordination of Government Departments • Designating a responsible agency to take the lead on development projects	• Strong regulations and adequate enforcement • Watershed management groups with regulatory power (Ontario Example) • Regulations are reviewed and enforced • Watershed based regulations. • Adequate legislation with teeth • Even distribution of use of lakes (no overloading of usage of any one lake)

Workshop Results Interpreted into Theme Areas HRM Protect Our Lakes Workshop I
May 19, 2011
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champion(s)						greenbelts as filters • Aesthetically pleasing lakes		• Rain barrels on every downpipe spout		
Question 3: What are the things we can do in the short run to address the impacts and move us toward our desired outcomes?										
Education	**Expertise**	**Public Access**	**Pollution & Siltation**	**Biophysical Environment**	**Water Quality Management**	**Lakeshore Management**	**Wastewater Management**	**Stormwater Management**	**Government &Jurisdiction**	**Policy & Regulations**
• Education and awareness campaign targeted at new waterfront property owners • Water awareness; public education program • Education – Education – Education • Public education – on watershed impacts • Public Education o HRWC o NSE o DFO • Needs a coordinator/$ (i.e. go to schools – adults) • Establish champions to model good behavior positive influence • Establish a developer champion (Paul Pettipas)	• Community college course on water management • Limnologist HRM needs staff • Hire more staff to enforce development sediment and erosion control • Floodplain mapping • Coastal mapping • Floodplain mapping 1/100 – 1/250	• Protected Areas Less Development/Private Ownership • Private ownership of lake shore -- Need buffers that permit public access	• Fertilizer ban like pesticide ban (e.g. too close to lake) • Low phosphate Filter By-law • Pass the HRM lot grading by-law (e.g. $5000/lot) • Updated lot grading By-law/Enforcement – Urban/Rural • Alternative to road salt. Best practices	• Prevent pigeons from nesting under highway bridge between Lake Banook and Lake MicMac • Conduct an HRM wide culvert survey/fish passage • Need biological water quality indicators e.g. Atlantic salmon • Invasive Species Plan o Plants o Animals (beaver management) o Fish o Algae • Enact adequate wetlands protection legislation in 2011 • More day lighting of streams	• Defined water quality indicators based on CCME guidelines and recent data • Water Quality Regulations • Annual Lake Report • Water functional plan started! • Pay for mandatory drinking water – wells county • On-site well testing routine basis!	• Green belt connectivity- green belt HRM ownership! • Pass the urban forest plan planting trees • Urban Forest Plan? • Enforcement of green belt regulations • Stream/River gouging • Increase buffer to 30 meters from 20 meters!	• HRM should use the data on which homes have had their septic tanks pumped organized at the sewage lagoon • HRM should have infrared photos taken in the winter of the lakes to identify malfunctioning septic systems • H/W look after all septic plants • Catalogue and Record Septic System Pumping, Mandatory Reporting to HRM (create a database) • Wastewater Treatment Plans every 2 years – HRM to do! • Well maintained septic systems $$?? • Overflow Plans • Water meter on every home! – on site and on central sewer • Low flow – fixtures – incentives	• Stormwater Management Plan required • Mandatory Stormwater Management Plan watershed basis • Proper sized culvert - on/off site stormwater management responsibility • Prioritize and advance Stormwater Management Plans • Ditch guidelines liner silt sites • Stormwater charge; county ditch tax – flood surface tax • Identify poor stormwater design and start fixing the problems • Stormwater Functional Plan – urban/rural • Create and implement plan to clean and inspect storm sewers on a scheduled basis • Permeable surfaces tax credits/incentives • Net 0 development – on-site retention • Incentives for conservation/stormwater management ($ rates) • Hard surface tax • On redevelopment of building sites decrease storm water runoff to 100% instead of 25% now on site retention • Solve permeable parking surfaces	• Government follows rules too; lead by example • Water governance model • Provincial water strategy implementation • Watershed management (community??? Lake management) • Watershed Management Groups funded and supported by HRM!	• Networking/discussion between regulatory agencies • Identify/adopt/share Best Management Practices • Make rules clear on building permits • Green the Red Book! • Implement past and current plans • Green the Red Book • Change MPS is to become watershed boundary development plans • LEED buildings standards!

•