

# Quamichan Watershed Management Plan



## The Jewel of North Cowichan

### *Restoring the natural beauty at your doorstep*

This is why Quamichan Stewards have developed a **Watershed Management Plan**.

Our **VISION** is that:

*The Quamichan Lake Watershed is valued as an important feature within the Cowichan Valley.*

Through addressing the full range of negative influences throughout the watershed, the proposed action plan will ensure that Quamichan Lake is restored to health by promoting:

- Changes in residential lifestyle
- Changes in agriculture land use
- Changes in storm water and land use management
- Stewardship of lakeshore and stream habitat
- Stewardship of native plant species, fisheries and wildlife
- Recreation opportunities and education awareness

### *Defining the Challenge*

Three issues drove the development of the management plan

1. Deteriorating Water Quality
2. Fluctuating Water Levels
3. Lack of Stewardship Commitment

These actions are the heart of the proposed Management Plan. Quamichan Stewards now want to know what YOU think.

Read this newsletter and the ideas presented. Complete the response form ([Click here](#)) by June 18<sup>th</sup>

Quamichan Stewards, in partnership with the Maple Bay Ratepayers' Association, are hosting a public meeting.

Come out, learn more, ask questions

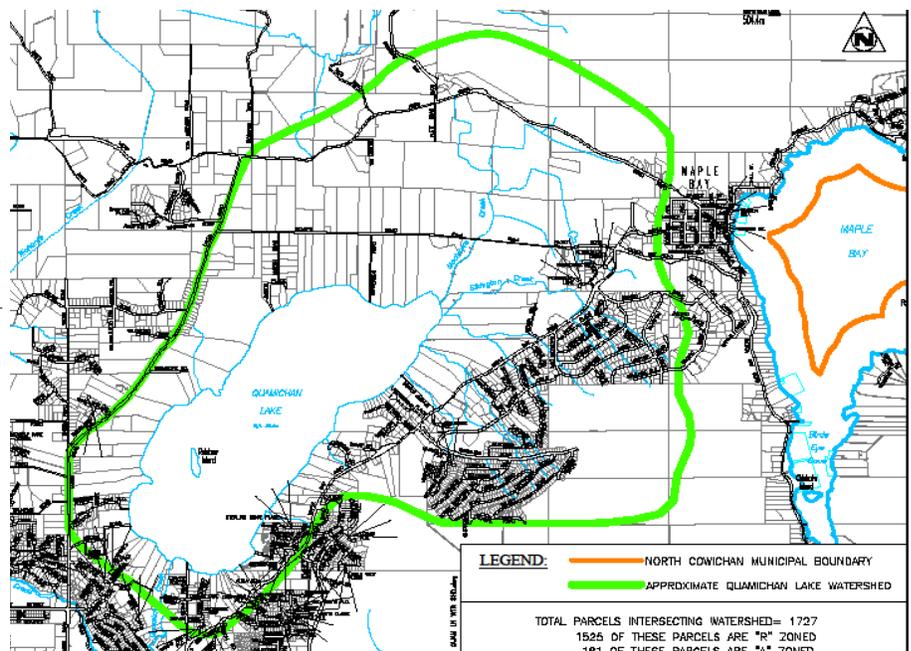
**Public Meeting**  
**Maple Bay Fire Hall**  
**1230 Maple Bay Road**  
**Tuesday June 23rd, 7:00-8:30pm**

### **Your Opinion Matters!**

This newsletter provides information supporting the Vision and proposed actions for the Quamichan Watershed.

We are seeking your support of the direction we are taking and of the actions we are proposing to achieve our vision.

Please complete the community response form ([click here](#)) by June 18, 2009 and make your voice heard!



Do you live in the watershed?

## Challenge: Water Quality



**A big green-blue algae bloom**

The water quality in Quamichan Lake has been on a steady decline for over 75 years – it is nutrient rich and the nutrient of concern is Phosphorus.

On an annual basis

- 55% of the Phosphorus is from surface run-off
- 30% is internally generated
- 15% of the Phosphorus comes from precipitation

Of the annual total input of Phosphorus 27% leaves the lake. That leaves 73% in the lake.

### So what does this mean?

Without a long-term watershed protection and management strategy Quamichan Lake will turn into a swamp – negatively impacting all property values within the watershed.

Without affecting what is coming into the lake from residential, agriculture and development activities and practice, lake restoration methods such as aeration or dredging will only have a short-term impact on water quality.

## Challenge: Water Levels

The water level of Quamichan Lake fluctuates on an annual range of 1.0 metre (3.2 feet) to 1.22 metres (4 feet). In severe winters, the water level increase has been recorded as high as 1.58 metres (5 feet). Shoreline properties and the floodplain around the lake are flooded annually.

- Fluctuating water levels impact current agriculture land use practices in the floodplain areas. Lower lake levels in spring and early summer allow access to low lying agricultural fields. The duration of natural high water levels, however, is often extended well into the spring - mid May thru July
- Beaver damming activity since 2006 has restricted spring water flows, further impacting effective drainage of fields
- Continual and prolonged flooding of residential and agricultural lands has lent to increased nutrient input into the lake, particularly where there is a poor riparian buffer
- Higher lake levels into the spring or early summer provide cooler water and improved stream flows, best serving water quality, water connectivity and aquatic plant, fish and wildlife habitats

### How to respond to water levels?

- To assess the impact of water level requires first and foremost, management of Quamichan and MacIntyre Creeks to ensure water flow in late fall and early spring. Once an understanding of the natural water hydrology is established, Quamichan Stewards and stakeholders can make informed decision on future actions
- Through a decisive plan of watershed management, the impact of water level on both land use and water quality can be reduced over time by changing residential and agricultural practices to those that are more flood neutral

### *Guiding Principles to the Planning Process*

- *Foster stewardship and work cooperatively to improve the ecological integrity of the watershed*
- *Treat all lands within the watershed as one unit, while recognizing the diversity of land use activities, and ownership needs*
- *Promote long-term strategies that benefit the overall ecological system*
- *Strike a balance between ecological preservation and recreational diversity*

## **Challenge: Lack of Stewardship Commitment**

There is a general lack of knowledge among people living in the watershed about the:

- Impact that lifestyle and land use practices have on the health of the lake and the watershed
- Social and economic values the watershed provides to the community
- Opportunity that community members may undertake to protect the values of the watershed

### **“Build it and they will come”**

Quamichan Stewards hold that through creating opportunity for access, involvement, education and recreation a community of stewardship will be born in the watershed and throughout the Cowichan Valley.

## **Highlights of the Proposed Quamichan Watershed Management Plan**

### **Goal: Value**

**Inspire the people of the Cowichan Valley to truly value the Quamichan Watershed**

### **Objectives:**

1. Increase the visibility of the Quamichan Watershed through promoting recreation and educational activities
2. Increase the awareness of the Quamichan Watershed as a place to experience and support wildlife
3. Increase public involvement in watershed management to create a culture of “Community Ownership” within the Cowichan Valley

### **Actions:**

The Watershed Management Plan recommends 11 actions to inspire people to truly value the Quamichan Watershed. Here is an overview of the actions.

- Create a public access strategy for Quamichan Lake
- Promote the Quamichan Watershed as a historical and cultural landmark
- Support the Nature Conservancy’s effort to increase access and education to the Garry Oak Preserve
- Develop a wildlife corridor strategy
- Provide opportunity for public participation in the watershed management
- Engage Cowichan Tribes in watershed management to ensure that cultural values are reflected in the objectives and actions



## **Watershed Management Plan: Stages in Development**

- Established residents group
- Community endorsed Stewardship Committee
- Collected and reviewed available information
- Gathered public and professional input on issues
- Conducted outlet control study
- Conducted nutrient budget study
- Developed Vision and Guiding Principles
- Secured funding for Watershed Management Plan (WMP)
- Established Working Group
- Developed Goals and Objectives
- Evaluated impact of in-lake water treatments
- Developed Actions for watershed management
- **Gathering ← We are here community endorsement for proposed Objectives and Actions**
- Preparing final draft of WMP
- Securing approval of WMP from other key stakeholders
- Implementing WMP

## Highlights of the Proposed Management Plan Continued...

### Goal: Water Quality

Improve the Water Quality of Quamichan Lake and the watershed

#### Objectives:

1. Reduce the amount of source nutrient (internal load) in Quamichan Lake
2. Reduce non-source nutrient input from land and water activities in the Quamichan Watershed
3. Monitor the water quality in Quamichan Lake



#### Actions:

The Management Plan recommends 15 actions to improve water quality. Here is an overview of the actions.

- Establish target Phosphorus level for Quamichan Lake
- Conduct aquatic vegetation assessment and undertake harvesting or promotion program
- Implement food-web manipulation program (fish stocking)
- Determine the viability of an isolated airlift pump (aeration) close to Quamichan Creek
- Install fine bubble linear aeration at select sites
- Build settling ponds around stream inlets
- Promote and educate community on septic field management and support community septic conversion

### Goal: Water Level

Ensure that the water level of Quamichan Lake supports multiple uses within the watershed

#### Objectives:

1. Develop a hydrology model of the Quamichan Watershed
2. Ensure adequate spring and fall water flows in the lake

#### Actions:

The Management Plan recommends 7 actions to address water level. Here is an overview of the actions.



- Develop a Watershed Hydrological Map and Assessment including inflow and outflow analysis; land elevations and precipitation analysis
- Ensure that a full creek cross-section, for first 310 metres of Quamichan Creek, be free of debris or obstructions in the late winter and early spring
- Ensure removal of debris and maintenance of free flow channel in MacIntyre Creek

## Highlights of the Proposed Management Plan Continued...

### Goal: Land Use

Champion ecologically sustainable land use practices within the watershed

#### Objectives:

1. Complete the Quamichan Watershed definition and assessment
2. Ensure that the Quamichan Watershed is integrated into other land and water planning efforts within the Cowichan Valley
3. Support the implementation of environmental farm practices within the watershed
4. Support the adoption of ecologically sound landowner activities

#### Actions:

The Management Plan recommends 10 land use practice actions. Here is an overview of the actions.

- Request that the District of North Cowichan accept the Management Plan as a resource to the Official Community Plan
- Encourage the Ministry of Agriculture to communicate the importance and relevance of environmental farm activities, particularly as it applies to watershed health
- Encourage the Ministry of Agriculture to explore alternative land use strategies for wetland agriculture parcels
- Support the Cowichan Land Trust in securing Stewardship Contracts with watershed residents
- Educate landowners on the Riparian Area Regulations (RAR) and riparian management best practices
- Promote and communicate best practices for storm water management



### Goal: Habitat

Improve habitat in the watershed to support a sustainable fishery and overall biodiversity

#### Objectives:

1. Protect the riparian habitat within the Quamichan Watershed
2. Protect native animal and fish species, particularly those that are endangered within the watershed
3. Conduct a viability assessment for re-introducing an anadromous fish (trout and/or salmon) habitat to the Quamichan Watershed

#### Actions:

The Management Plan recommends 9 actions to address sustainable habitat. Here is an overview of the actions.

- Conduct a riparian assessment, undertake riparian re-vegetation and maintenance activities
- Conduct native and alien animal and fish species identification assessment
- Request the Department of Fisheries and Oceans to make recommendations on viability of re-introducing an anadromous fish (trout and/or salmon) habitat to the Quamichan Watershed

## Next Steps

Quamichan Stewards are looking for your endorsement of the proposed Management Plan. Your comments on the proposed actions will help to fine tune the final Watershed Management Plan.

Quamichan Stewards will report out at the Public Meeting on the input receive to the response form by June 18, 2009.

The Management Plan will then be presented to other key authority holders (TimberWest, District of North Cowichan, Ministry of Environment, Ministry of Agriculture, Fisheries and Oceans Canada and the Cowichan Valley Regional District) for their acceptance in principal.

Once the plan has received endorsement from other key stakeholders it can be implemented.

We can then fully continue the journey to restoring Quamichan Lake and ensuring the watershed is valued as an important feature in the Cowichan Valley.

## Management Plan Working Group

Clay Reitsma	District of North Cowichan
Chay Foss	Resident, Hydrology Expert
Deb Epps	Ministry of Environment
David Groves	Aquatic Nutrient Expert
John Scull	Cowichan Land Trust
Sonora Butterfield	Department of Fisheries and Oceans
Sara Howard/ Tanya Bryan	Nature Conservancy of Canada
Wayne Haddow	Ministry of Agriculture
Bruce Holms	Quamichan Stewards, Director
Jim Cosh	Quamichan Stewards, Director
Roger Hart	Quamichan Stewards, Chair

## Quamichan Watershed Management Plan Public Meeting

Hosted by the Maple Bay Ratepayers' Association

We hope to see you there!

Maple Bay Fire Hall  
1230 Maple Bay Road  
Tuesday June 23rd,  
7:00-8:30pm

QUAMICHAN STEWARDS  
ARE ON THE WEB

[WWW.QUAMICHANLAKE.CA](http://WWW.QUAMICHANLAKE.CA)

### More Information

For More information, including a draft of the Management Plan, print copy of response form, technical reports, minutes, lake logs, etc., go to [WWW.QUAMICHANLAKE.CA](http://WWW.QUAMICHANLAKE.CA)

**Remember to make your voice heard!**  
**Complete the Community Response Form (Click here) by**  
**June 18, 2009**

