WATER QUALITY

WHAT IS THE RSVL ?

RESEAU DE SURVEILLANCE VOLONTAIRE DES LACS

RSVL…PARTNERSHIP BETWEEN:

-Ministry of the Environment (develop protocols, provides analysis)

-Municipality

-Participants (next slide)

-Partner organizations and university researchers (ensures quality control and protocol development)

PARTICIPANTS

- 78 % Lac associations
- 11% Municipalities
- 2 % Parks
- 8% Management Watershed Council
- 1 % Individuals

RESPONSIBILITIES

- Acquire data to establish the trophic level of lakes and their evolution over time
- Track lakes showing signs of eutrophication and degradation
- Educate, Sensitize, Support and Inform lac associations
- Provide a general picture of the situation of Quebec lakes

TIMELINES

- 2002-2003- Pilot Projects of lake surveillance
- 2004- Open to the public but limited to 50 lakes per year
- **2008- Increased participation to 150 new lakes per year**
- 2012- Goal is to have 700 lakes registered in the program

  -656 lakes by 2011.

GOALS OF RSVL

MONITOR the state and evolution of aquatic environments

DISSEMINATE the information collected.

WHAT IS THE "**RELAIS**"?

- Business management information system
- Manages the RSVL activities
- Provides results of water testing

**Access to data is dependent on your role

WATER TRANSPARENCY

Amount of water that penetrates into the lake

- Performed **yearly**
- Collection of **10-12 samples** per summer
- Collected **every 2 weeks** from June to October between 10:00 and 15:00

** COST: Initial purchase of the secchi disk: $60.00

WATER TRANSPERANCY

- http://www.environnment.gouv.qu.ca/eau/rsvl/transparence.pdf

WATER SAMPLING

- One predetermined weekend in June, July and August
- Repeat for 2 consecutive years to ensure that the results are valid and the protocol is followed.
- 4 year break

**COST: $466.00 per station/ year. (may be less the second year)

WATER SAMPLING

- http://www.environnment.gouv.qc.ca/eau/rsvl/protocole-echantill-quality.pdf

WHAT ARE WE TESTING?

- PHOSPHORUS

- Nutritional element necessary for growth of plants and algae
- An increase in abundance of vegetation= increase in phosphate levels

PHOSPHORUS

- NATURAL SOURCES
- rocks and soil
- forests
- decomposition of natural organisms
- animal manure.

- HUMAN ACTIVITIES
- fertilizers
- water from cottages
- cleaning products/phosphates
- erosion at shoreline
- drainage/roadside ditches not maintained.

PHOSPHORUS IN OUR LAKE

SITE A

- ULTRA OLIGOTROPHIC

SITE B

- ULTRA OLIGOTROPHIC

WHAT ARE WE TESTING?

CHLOROPHYL A

- Green pigment in plants, seaweed and cyanobacterias
- Indicates microscopic amount of algae suspended in H2O

CHLOROPHYL A IN OUR LAKE

SITE A

- ULTRA OLIGOTROPHIC

SITE B

- OLIGOTROPHIC

WHAT ARE WE TESTING?

- DISSOLVED ORGANIC CARBON

- From decomposition of mostly wood components and of partially decomposed animals trees and plants.

- Give an idea about water clarity

DISSOLVED ORGANIC CARBON IN OUR LAKE

SITE A

- Slightly coloured
- clarity: ave= 7.2 meters

SITE B

- colour has little impact on transparency
- clarity : ave= 9 meters

WHAT ARE WE TESTING?

MAJOR CATIONS

- calcium
- magnesium
- Potassium
- conductivity
- PH
- **tested in 2018 for the first time at no charge

FEW OR NO SIGNS OF EUTROPHICATION ON LAC PEMICHANGAN