IJC WQ Science/Policy Workshop

Preliminary Recommendations of QCCSAG

St-Michaels College, Colchester
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Key assumption

That the QC – VT agreement «Concerning phosphorus reduction in Missisquoi Bay» will be renewed before report is released to IJC

- 20-year agreement expired December 2016
- Has attracted ressources, research, etc. to the basin
- New agreement involves tighter targets (TMDL)
- Recommendations may change if agreement is not renewed

Phosphorus load - Targets and Plans

EPA	TMDL 2002			TMDL 2015		
T/an	Charges en 1991	Charge cible	Pourcentage de réduction	Charges en 2001-2010	Charge cible	Pourcentage de réduction
Vermont	101,1 (60 %)	58,3	42 %	136,3 (65 %)	48,6	64 %
Québec	66,2 (40 %)	38,9	41 %	72,4 (35 %)	32,4	55 %
Total	167,3 (100 %)	97,2	42 %	208,7 (100 %)	81,0	61 %

Plan	Qui ?	Couverture	Vise à atteindre les objectifs ?	Financement	Focus baie Missisquoi	Dernier
Modélisation IRDA	MELCC	riv.Brochets	feuille de route	non	riv.Brochets	2006
Com. Interministériel baie Missisquoi	MELCC	QC	non	oui	QC seulement	2011
TMDL	VT-ANR	VT	établit les objectifs	substantiel	non	2016
Missisquoi Bay Tactical Basin plan	VT-ANR	VT	feuille de route +	substantiel	VT seulement	2016-2021
LCBP OFA	LCBP	QC-VT-NY	non	substantiel	non	2017
PDE	OBVBM	QC	non	non	QC seulement	2019

Facts : No Binational Plan or Roadmap to reach the targets

No Governance mechanism to develop one

Preliminary recommendations - QCCSAG

1 - Establish a dedicated, bi-national Task Force on Missisquoi Bay

- Task is to develop and implement plan to reach joint phosphorus reduction targets
- Long-term financing from Federal and Provincial/State levels
- «Special Status» for Missisquoi Bay to allow flexibility and innovation ?
  - Programs
  - Incentives
  - Regulation
- Composed of experts, government representatives and stakeholders from the watershed
- Includes a strong outreach component to inform and educate the population

The challenge as seen from high above

	Superficie (ha) PDE	Taux (kg/ha) Gangbazo (2006)	Charge	Nouveau taux	Charge	Diff.
Mais	16232	2.47	**40.1**	1.50	24.3	15.7
Soya	4219	1.12	4.7	1.00	4.2	0.5
Int.étroit	1358	0.74	1.0	0.50	0.7	0.3
Fourrage	9719	0.39	3.8	0.20	1.9	1.8
Autres cultures	814	1.00	0.8	0.50	0.4	0.4
Autres	11100	0.10	1.1	0.10	1.1	0.0
Foret	76650	0.02	1.5	0.02	1.5	0.0
Urbain	1440	1.95	2.8	1.50	2.2	0.6
Humides	7400		0.0		0.0	0.0
Eau	1600		0.0		0.0	0.0
Ponctuel	NA	1.00	2.0	0.50	1.0	1.0
Total	130532		**57.9**		**37.4**	20.5

Charge mesurée par le QC	57.9
Charge mesurée par le VT	72.3

Objectif **32.4**

Support capacity has been well exceeded

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2 - Establish conditions to transition from high-input to low-input crops

- Fully understand financials/economics of transition
  - Cost of intrants
  - Externalities (excess phosphorus, pesticides)
  - Role of crop insurance
  - Use of public funds
  - Cost / benefit of crop rotation
- Establish the real cost of transition
- Support transition to crop diversification in 3 ways:
  - Financial
  - Technical
  - Regulatory
- Focus on CSAs

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3 - Reduce nutrient loading in watershed by reviewing nutrient management regulation and agronomic recommendations

- Perform analysis of current agronomic recommendations
  - Plant need vs soil enrichment
  - Yield vs cost
  - Consider insuring eventual yield loss
- Review existing regulation regarding nutrient application with the objective of minimizing negative impacts on water-quality
- Harmonize regulation when possible on both side of the border

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4 - Harmonize Water Quality Monitoring Programs

- There is a significant difference in estimated phosphorus loads by Vermont and Québec

- Water Quality Monitoring Program procedures (sampling) and reporting (streambank erosion ?) should be harmonized to avoid confusion

Knowledge gap

5 - Design a Cross-border Phosphorus Mass Balance Model

- Develop a Cross-border Model for phosphorus sources for the entire Watershed using the same methodology and include a complete mass balance of all phosphorus inputs and outputs
- The Model could make possible the development of reduction scenarios for the entire territory and to make cost-benefit analysis