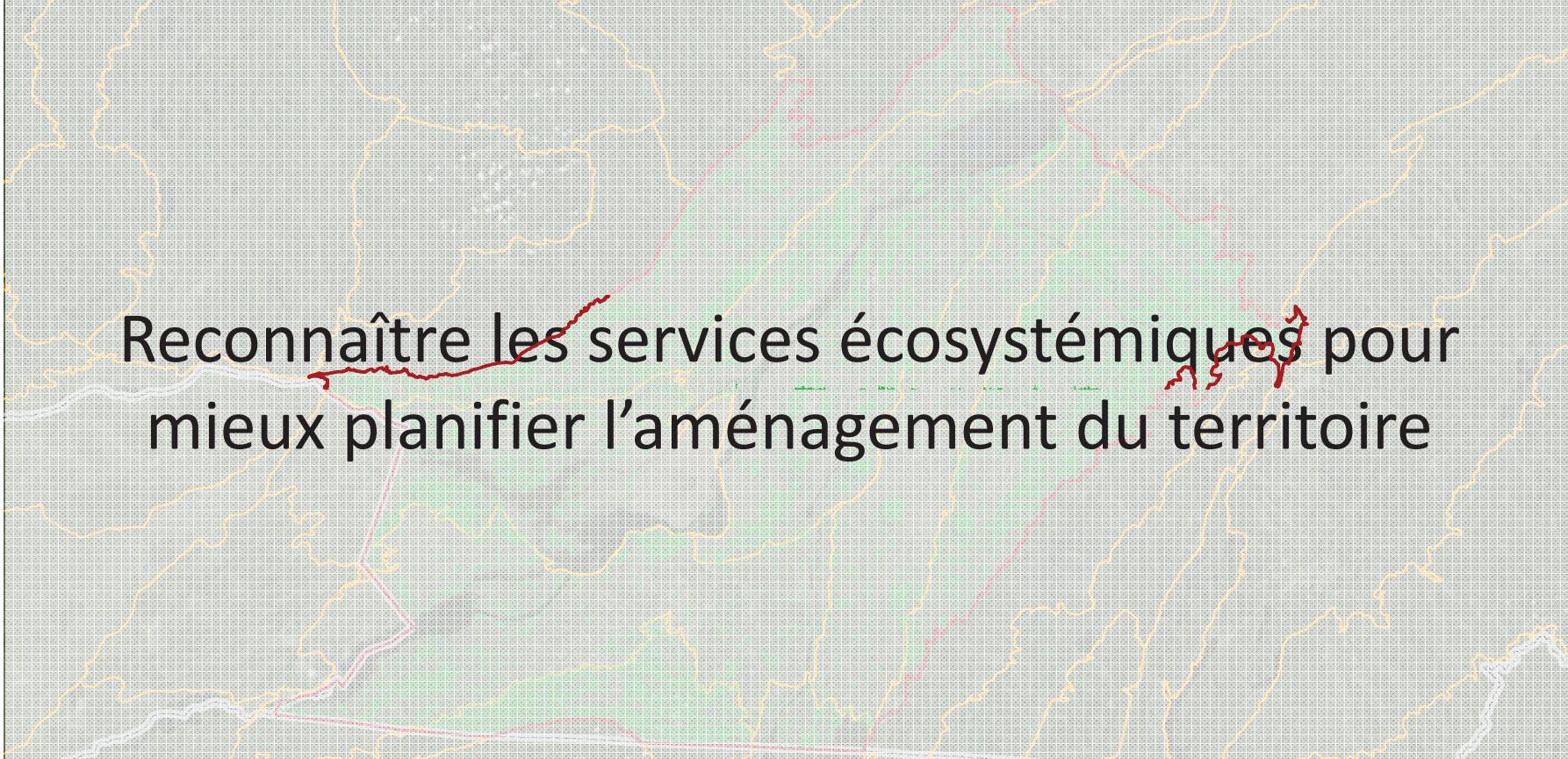


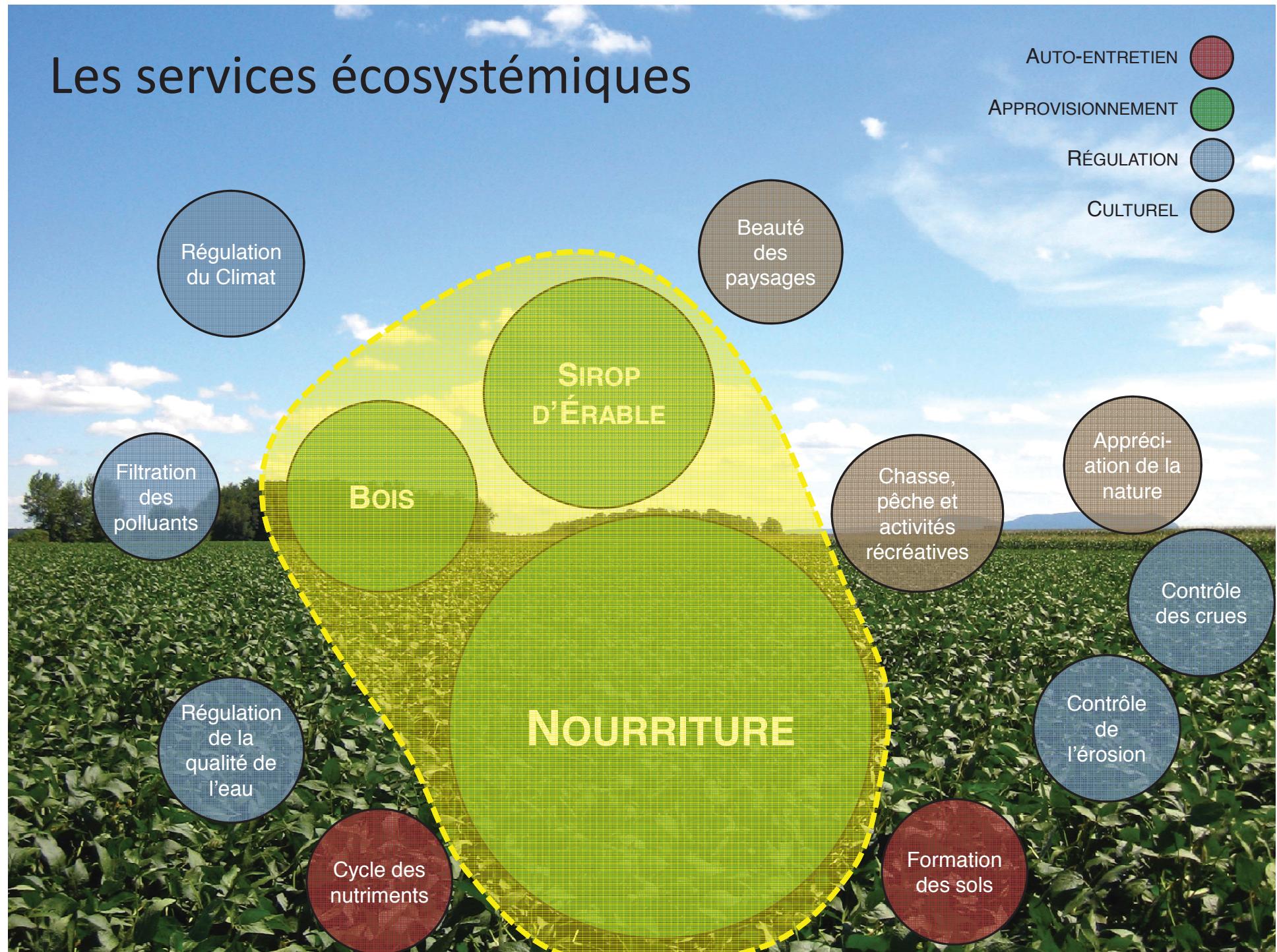
Colloque « Inspirer le monde »
22 septembre 2016



Reconnaître les services écosystémiques pour
mieux planifier l'aménagement du territoire



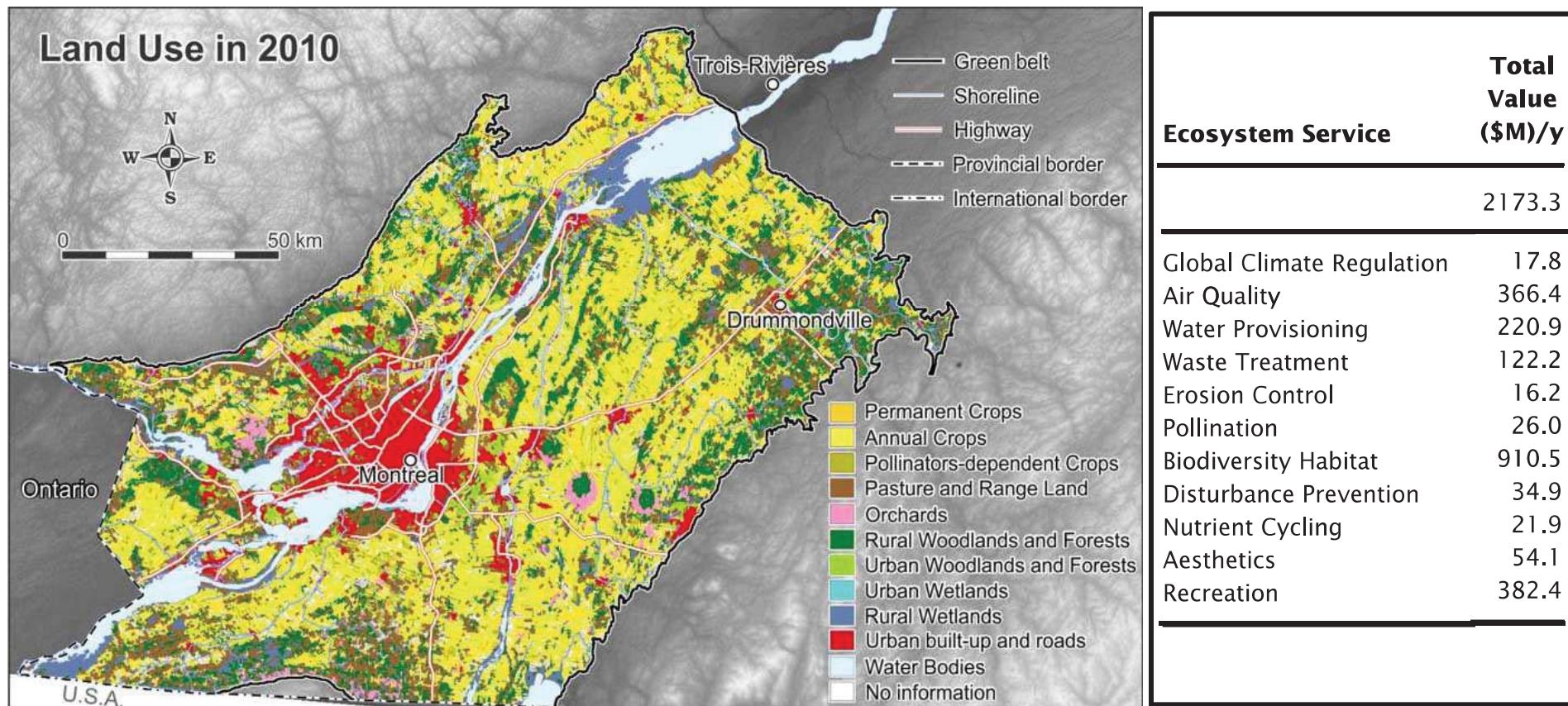
Les services écosystémiques



Évolution des services écosystémiques dans la grande région de Montréal

Ecosystem service	1966		1981		1994		2010		Trend
	10 ⁶ \$/y	%							
Food production	601.8	58.6	512.2	55.3	548.5	66.1	481.3	60.8	↑
Climate regulation	8.5	0.8	11.6	1.3	2.9	0.3	6.0	0.8	-
Air quality	47.1	4.6	38.6	4.2	35.1	4.2	33.8	4.3	↓
Water provisioning	52.7	5.1	43.4	4.7	39.8	4.8	38.3	4.8	↓
Waste treatment	10.1	1.0	8.3	0.9	7.6	0.9	7.3	0.9	-
Erosion control	18.0	1.8	16.1	1.7	15.6	1.9	14.3	1.8	-
Pollination	0.7	0.1	1.2	0.1	0.1	0	0.5	0.1	-
Disturbance protection	0.8	0.1	0.8	0.1	0.8	0.1	0.8	0.1	-
Biodiversity habitat	122.8	12.0	152.3	16.5	53.3	6.4	87.1	11.0	↓
Pest management	4.0	0.4	4.2	0.5	2.3	0.3	2.9	0.4	-
Nutrient cycling	28.0	2.7	23.9	2.6	25.5	3.1	22.4	2.8	-
Aesthetics	4.1	0.4	7.9	0.8	1.4	0.2	3.9	0.5	-
Recreation	127.3	12.4	105.1	11.4	97.9	11.8	93.1	11.8	↓
Total	1026.9	100	925.5	100	829.7	100	791.4	100	

La valeur des services écosystémiques de la Ceinture verte de Montréal



Démonstration de la demande sociale pour les services écosystémiques



Dupras et Revéret, 2014

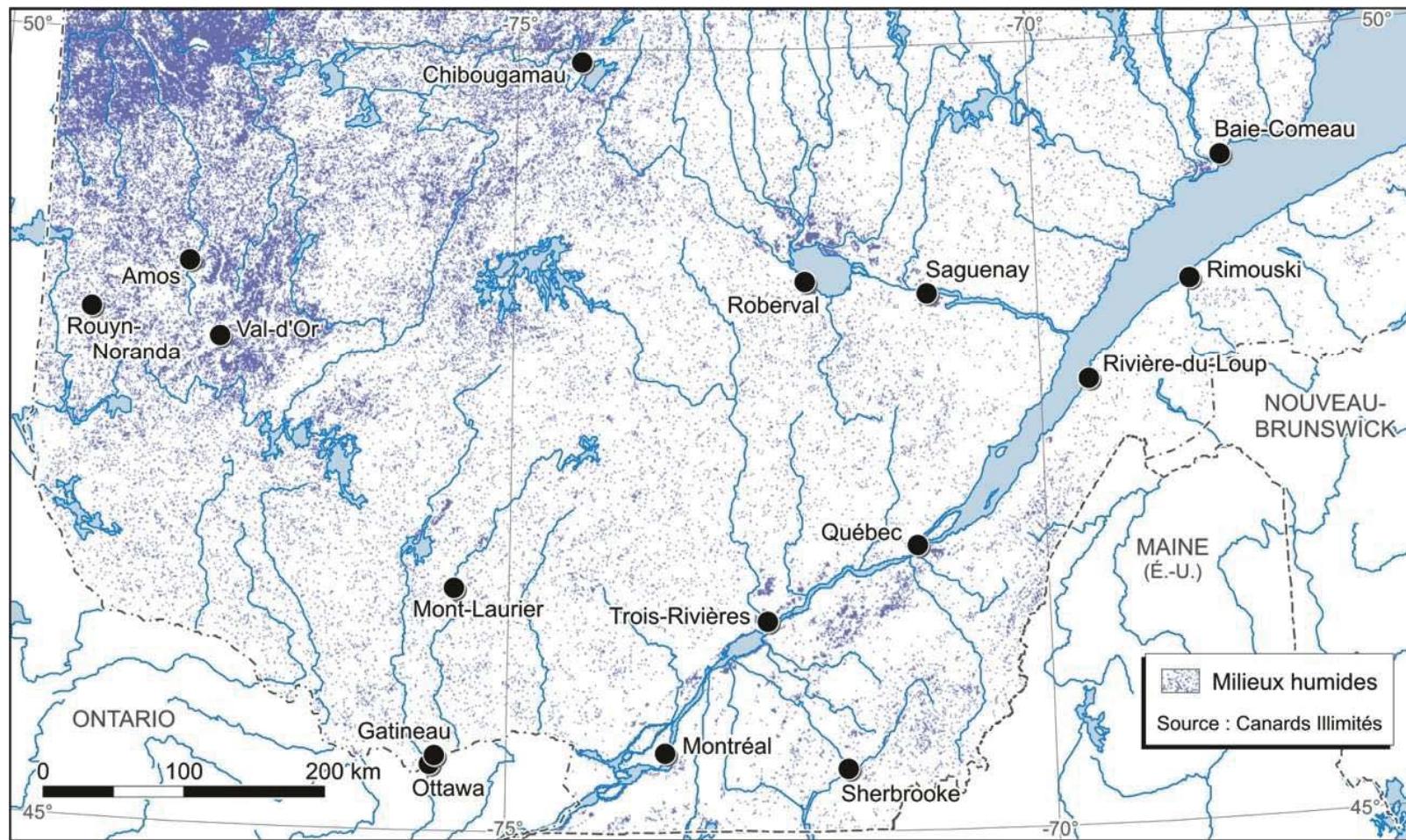


Dupras et Revéret, 2014

Résultats

	Basic conditional	Cond. Logit W.	Random Parameter	Rank
	Logit	Multiplicative terms	Logit (simple)	
Water quality	\$385.09	\$399.28	\$402.46	1
95 % CI	(245.88 – 782.69)	(256.58 – 910.06)	(288.97 – 608.01)	
Fish biodiversity	\$242.30	\$262.65	\$200.63	3
95 % CI	(149.51 – 511.90)	(159.59 – 593.30)	(144.28 – 303.51)	
Bird biodiversity	\$94.27	\$84.26	\$85.45	4
95 % CI	(49.21 – 208.07)	(42.48 – 222.05)	(50.47 – 138.98)	
Landscape esthetics	\$354.25	\$363.71	\$332.88	2
95 % CI	(228.40 – 709.98)	(233.08 – 811.36)	(236.81 – 506.58)	

La valeur des milieux humides?



Design de l'évaluation contingente

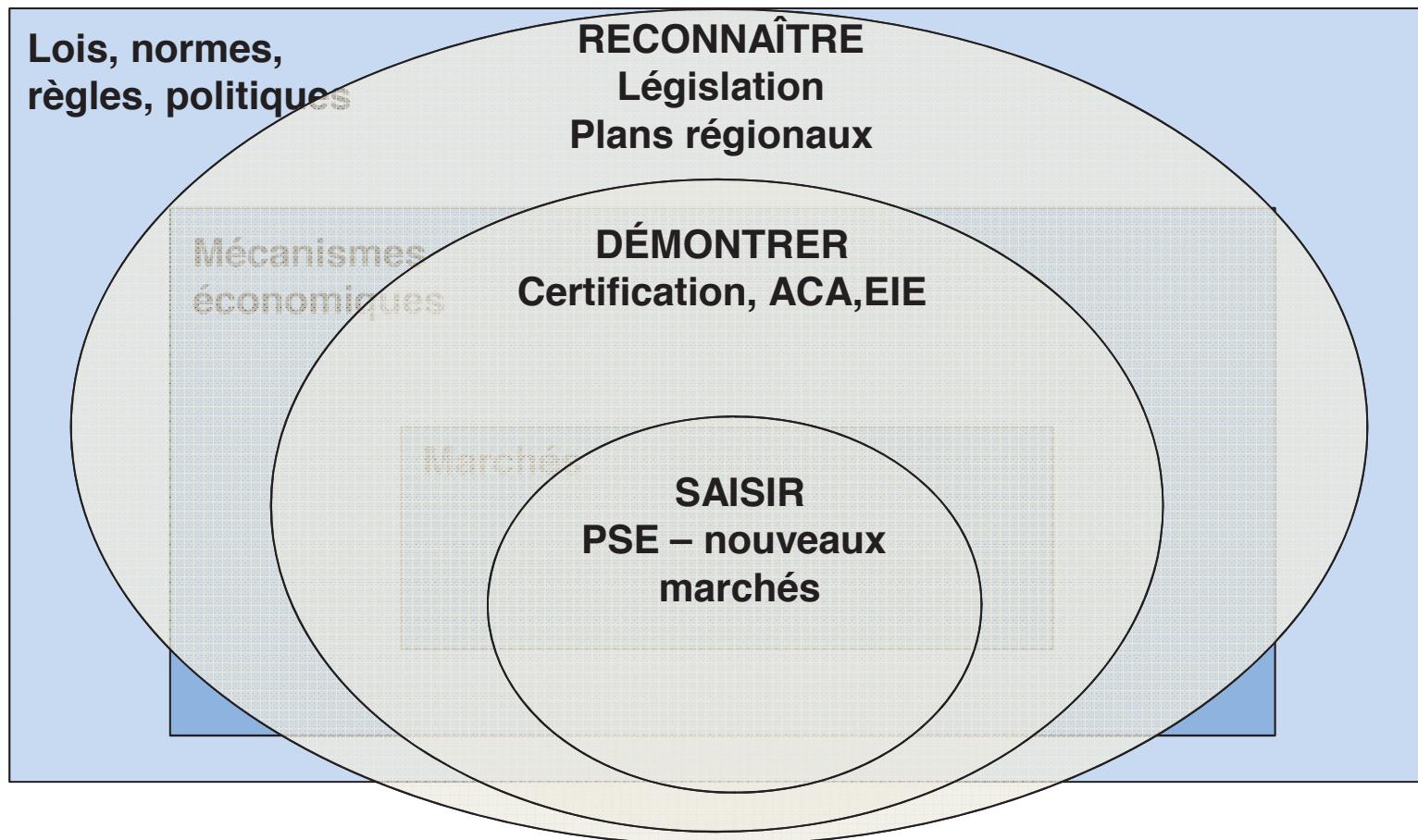
Scenarios proposed to the respondents in the CV survey
\$X varies from \$5 to \$150 (5, 10, 15, 25, 40, 60, 80, 150).

Attributes	Status quo	Wetlands doubling Scenario
Biodiversity habitat	90 threatened species	30 threatened species
Flood protection	14 catastrophic floodings in 10 years	6 catastrophic floodings in 10 years
Water quality	Bad (does not allow recreational activities, fecal coliforms: more than 100 UFC/100ml)	Good (drinking water, fecal coliforms below 1ufc/100ml)
Climate regulation	Equivalent of 30,000 cars off the road	Equivalent of 60,000 cars off the road
Cost	\$0	\$X

Résultats des consentements à payer

	CV		CE : CL		CE : RPL	
	WTP ^a	%	WTP	% ^b	WTP	% ^b
Biodiversity	n.d	27.08%	64.79	24.48%	62.75	23.36%
CI 95%			[45.30, 87.42]		[45.92, 92.94]	
Flood control	n.d	21.45%	44.24	16.72%	42.62	15.87%
CI 95%			[25.60, 64.63]		[25.37, 64.90]	
Water quality	n.d	30.57%	124.98	47.22%	132.01	49.15%
CI 95%			[100.24, 156.34]		[105.86, 163.62]	
Carbon storage	n.d	20.89%	30.65	11.58%	31.20	11.62%
CI 95%			[13.72, 49.91]		[13.80, 51.25]	
Total	455.69 [235.54, 2161.83]		389.43 [328.92, 458.92]		401.34 [341.44, 486.98]	
Poe et al. 1997 (vs. CV)^c			0.59		0.37	

Comment intégrer les services écosystémiques dans l'aménagement du territoire?



Partiellement adapté de TEEB, 2010



October 7, 2015

M-16-01

MEMORANDUM FOR EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Shaun Donovan, Director
Office of Management and Budget
[Signature]
Christiha Goldfuss, Managing Director
Council on Environmental Quality
[Signature]
John Holdren, Director
Office of Science and Technology Policy
[Signature]

SUBJECT: Incorporating Ecosystem Services into Federal Decision Making

Overview. Nature provides vital contributions to economic and social well-being that are often not traded in markets or fully considered in decisions. This memorandum provides direction to agencies on incorporating ecosystem services into Federal planning and decision making. (Broadly defined, ecosystem services are the benefits that flow from nature to people, e.g., nature's contributions to the production of food and timber; life-support processes, such as water purification and coastal protection; and life-fulfilling benefits, such as places to recreate.)

Specifically, this memorandum:

- (1) Directs agencies to develop and institutionalize policies to promote consideration of ecosystem services, where appropriate and practicable, in planning, investments, and regulatory contexts. (Consideration of ecosystem services may be accomplished through a range of qualitative and quantitative methods to identify and characterize ecosystem services, affected communities' needs for those services, metrics for changes to those services and, where appropriate, monetary or nonmonetary values for those services.)
- (2) Sets forth the process for development of implementation guidance and directs agencies to implement aforementioned policies and integrate assessments of ecosystem services, at the



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de la Forêt tempérée