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# Overview of the Canadian Water Flow Account

## Regional Seminar on the System of Environmental-Economic Accounts (SEEA) Central Framework in the Caribbean

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Castries, Saint Lucia

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**Statistics Canada**

# Physical Flow Accounts in the SEEA

Table 3.2.1 General physical supply and use table

Supply table						
	Production; Generation of residuals		Accumulation	Flows from the rest of the world	Flows from the environment	Total
	Production; Generation of residuals by industries (incl. household production on own account) - classified by ISIC	Generation of residuals by households	Industries - classified by ISIC			
Natural inputs					A. Flows from the environment (incl. natural resource residuals)	Total Supply of Natural Inputs (TSNI)
Products	C. Output (incl. sale of recycled and reused products)			D. Imports of products		Total Supply of Products (TSP)
Residuals	I1. Residuals generated by industry (incl. natural resource residuals)	J. Residuals generated by household final consumption	K1. Residuals from scrapping and demolition of produced	L. Residuals received from rest of the world	M. Residuals recovered from the environment	Total Supply of Residuals (TSR)
	I2. Residuals generated following treatment		K2. Emissions from controlled landfill sites			
Total supply						
Use table						
	Intermediate consumption of products; Use of natural inputs; Collection of residuals	Final consumption*	Accumulation	Flows to the rest of the world	Flows to the environment	Total
	Industries - classified by ISIC	Households	Industries - classified by ISIC			
Natural inputs	B. Extraction of natural inputs					Total Use of Natural Inputs (TUNI)
	B1. Extraction used in production					
	B2. Natural resource residuals					
Products	E. Intermediate consumption (incl. purchase of recycled and reused products)	F. Household final consumption (incl. purchase of recycled and reused products)	G. Gross Capital Formation (incl. fixed assets and inventories)	H. Exports of products		Total Use of Products (TUP)
Residuals	N. Collection and treatment of residuals (excl. accumulation in controlled landfill sites)		O. Accumulation of waste in controlled landfill sites	P. Residuals sent to the rest of the world	Q. Residual flows to the environment	Total Use of Residuals (TUR)
					Q1. Direct from industry and households (incl. natural resource residuals & landfill emissions)	
					Q2. Following treatment	
Total use						

\*No entries for government final consumption are recorded in physical terms. All government intermediate consumption, production and generation of residuals is recorded against the relevant industry in the first column of the PSUT.

# Water Accounts in the SEEA: Supply

70

Table 3.5.1 Physical supply and use table for water (cubic metres of water)

Physical supply table for water	Abstraction of water; Production of water; Generation of return flows							Flows from the rest of the world Imports	Flows from the environment	Total supply
	Agriculture, forestry and fishing	Mining & quarrying, Manufacturing and Construction	Electricity, gas, steam and air conditioning	Water collection, treatment and supply	Sewerage	Other industries	Households			
<b>(I) Sources of abstracted water</b>										
Inland water resources										
Surface water									440.6	440.6
Groundwater									476.3	476.3
Soil water									50.0	50.0
Total									966.9	966.9
Other water sources										
Precipitation									101.0	101.0
Sea water									101.1	101.1
Total									202.1	202.1
Total supply abstracted water									1 169.0	1 169.0
<b>(II) Abstracted water</b>										
For distribution				378.2						378.2
For own-use	108.4	114.6	404.2	61.2	100.1	2.3				790.8
<b>(III) Wastewater and reused water</b>										
Wastewater										
Wastewater to treatment	17.9	117.6	5.6	1.4		49.1	235.5			427.1
Own treatment										
Reused water produced										
For distribution					42.7					42.7
For own use		10.0								10.0
<b>(IV) Return flows of water</b>										
To inland water resources										
Surface water			300.0		52.5	0.2	0.5			353.2
Ground water	65.0	23.5		47.3	175.0	0.5	4.1			315.4
Soil water										
Total	65.0	23.5	300.0	47.3	227.5	0.7	4.6			668.6
To other sources			5.9	100.0		256.3	0.2			362.4
Total Return flows	65.0	29.4	400.0	47.3	483.8	0.7	4.8			1 031.0
<b>(V) Evaporation of abstracted water, transpiration and water incorporated into products</b>										
Evaporation of abstracted water	76.2	43.2	2.5	1.8	0.7	3.6	10.0			138.0
Transpiration										
Water incorporated into products										
<b>Total supply</b>	<b>267.5</b>	<b>314.8</b>	<b>812.3</b>	<b>489.9</b>	<b>627.3</b>	<b>55.7</b>	<b>250.3</b>		<b>1 169.0</b>	<b>3 986.8</b>

Note: Dark grey cells are null by definition.

# Water Accounts in the SEEA: Use

Table 3.5.1 (cont) Physical supply and use table for water (cubic metres of water)

	Abstraction of water, Intermediate consumption, Return flows						Final consumption Households	Accumulation	Flows to the rest of the world Exports	Flows to the environment	Total use
	Agriculture, forestry and fishing	Mining & quarrying, Manufacturing and Construction	Electricity, gas, steam and air conditioning	Water collection, treatment and supply	Sewerage	Other industries					
<b>(I) Sources of abstracted water</b>											
Inland water resources											
Surface water	55.3	79.7	301.0	4.5	0.1						440.6
Groundwater	3.1	34.8	3.2	432.9		2.3					476.3
Soil water	50.0										50.0
Total	108.4	114.5	304.2	437.4	0.1	2.3					966.9
Other water sources											
Precipitation				1.0	100.0						101.0
Sea water			100.0	1.1							101.1
Total	0.0	0.0	100.0	2.1	100.0	0.0					202.1
Total use abstracted water	108.4	114.5	404.2	439.5	100.1	2.3					1 169.0
<b>(II) Abstracted water</b>											
Distributed water	38.7	45.0	3.9			51.1	239.5				378.2
Own use	108.4	114.6	404.2	50.4	100.1	2.3	10.8				790.8
<b>(III) Wastewater and reused water</b>											
Wastewater											
Wastewater received from other units					427.1						427.1
Own treatment	12.0	40.7									52.7
Reused water											
Distributed reuse											
Own use											
Total	12.0	40.7			427.1						479.8
<b>(IV) Return flows of water</b>											
Returns of water to the environment											
To inland water resources										668.6	668.6
To other sources										362.4	362.4
Total return flows										1 031.0	1 031.0
<b>(V) Evaporation of abstracted water, transpiration and water incorporated into products</b>											
Evaporation of abstracted water											
Transpiration										138.0	138.0
Water incorporated into products											
Total use	267.5	314.8	812.3	489.9	627.3	55.7	250.3			1 169.0	3 986.8

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# Water Accounts in Canada

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# Water Use Accounts in Canada: Basic table

**Table 153-0101** <sup>1, 2, 3</sup>

## Water use in Canada, by sector

every 2 years (cubic metres x 1,000)

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The data below is a part of CANSIM table 153-0101. Use the [Add/Remove data](#) tab to customize your table.

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**Geography** = Canada

Sector	2005	2007	2009
<b>Total, all sectors</b>	41,954,981 <sup>f</sup>	41,318,056 <sup>f</sup>	38,801,349
<b>Crop production (except greenhouse, nursery and sod)</b>	1,507,290 <sup>f</sup>	2,015,404 <sup>f</sup>	2,043,705
<b>Total, animal production (except animal aquaculture)</b>	321,285	306,148 <sup>f</sup>	280,847
<b>Oil and gas extraction</b>	198,000 <sup>f</sup>	190,000 <sup>f</sup>	223,000
<b>Mining (except oil and gas)</b>	455,954	535,789	497,235
<b>Total, electric power generation, transmission and distribution</b>	27,825,147	27,834,391	26,345,513
<b>Natural gas distribution, water and other systems</b>	970,494 <sup>f</sup>	980,150 <sup>f</sup>	940,121
<b>Food manufacturing</b>	297,482	291,244 <sup>f</sup>	332,330
<b>Beverage and tobacco product manufacturing</b>	82,952	65,621 <sup>f</sup>	46,939
<b>Textile and textile product</b>	16,586	8,397 <sup>f</sup>	4,070
<b>Clothing manufacturing</b>	x	x	x
<b>Leather and allied product manufacturing</b>	x	x	x
<b>Wood product manufacturing</b>	123,622	96,417 <sup>f</sup>	22,420
<b>Paper manufacturing</b>	2,564,773	1,959,822 <sup>f</sup>	1,593,630
<b>Printing and related support activities</b>	x	x	x
<b>Petroleum and coal products manufacturing</b>	356,615	372,794 <sup>f</sup>	299,842

# Water Accounts Uses

**Impact analysis for International Trade**

**Environmental Sustainability Indicators**

**CGE modelling**

**Analysis of water use**

**Etc...**

# Overview of Main Data Sources

## **Industrial Water Use Survey**

Mining, Manufacturing, and Thermal Power. Oil and gas extraction estimate provided by the Canadian Association of Petroleum Producers.

## **Agricultural Water Use Survey**

Irrigation for all provinces outside Alberta. Alberta estimate from Alberta Agriculture and Rural Development.

## **Survey of Drinking Water Treatment Plants**

Control Total for municipal supply. Estimate for losses and commercial, industrial and residential split.

## **Input-output Tables**

Water supplied through mains expenditure based allocation for users not surveyed above (proposed)



# Challenges

- **Periodicity of source surveys**
- **Lack of detailed data for industries, particularly in the commercial and institutional sector**
- **Difficulty of collecting household use data directly**

# Questions?

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