The Shipland-Water Exercise

An Introduction to Environmental –Economic Accounts for Water (SEEA-Water)

12 November 2013
Rev 3

Water in Shipland

An important element of the economy of Shipland is "The Shipland Canal." The operation of the locks of the canal requires large amounts of inland water resources (all of them freshwater), but it is also a very important activity for the country. In fact, the canal generates 18% of the GDP of Shipland.

All the relevant information about water is shown in the table below:

Table 1. Summary of information about Shipland (in 2010)

Population (millions of people)	3.5
Area of the country (km^2)	76 000
Average precipitation (mm/year)	2 822
Evapotranspiration as proportion of precipitation	40%

Water abstracted by the water utilities (hm^3/year)	410
Losses in the drinking water distribution network (hm^3/year)	224
Water abstracted for agriculture, livestock and fisheries (hm^3/year)	487
Losses in conveyance of water in agriculture (hm^3/year)	151
Water abstracted by manufacturing services, and other (hm^3/year)	100
Water abstracted by thermoelectric plants (for cooling)	100
Water turbinated in hydroelectric plants (hm^3/year)	9 861
Water used for operation of the canal locks (hm^3/year)	2 558

NOTE: 1 hm^3 = 1 million cubic meters

The enterprise that operates the canal also supplies bulk water to the water utilities. It supplies 133 million cubic meters of water per year. The enterprise uses 2 558 million cubic meters for the operation of the locks and additionally abstracts 133 for being delivered to the water utilities. Of the water supplied by the utilities (after losses), 73% is supplied to households and the rest is supplied to the different industrial activities connected to the water supply network.

All the water abstracted is considered freshwater, according to the definition adopted by the country of Shipland.

The sewer utilities collect all the wastewater discharged by households, as well as 70 million cubic meters of wastewater discharged by the different manufacturing and services activities, as well as other similar activities. The sewerage utilities discharge 200 million cubic meters of wastewater to the sea without treatment, and discharge the rest of wastewater to the rivers in Shipland after treatment.

The different manufacturing establishments that do not discharge their wastewaters to the sewer network discharge it to the rivers after treatment.

Evaporation in the lakes and reservoirs is estimated in 500 million cubic meters of water per year. Measurements of the surface water flowing to the ocean and studies about

groundwater flowing to the ocean, estimate between 128 and 129 billion cubic meters of water flowed to the ocean in 2010.

There are no significant inflows from other countries or outflows to other countries or territories.

Additional Assumptions

- "Water consumption" (water evaporated or transpired by an activity. Not to be confused with consumption as defined in the SNA) is:
    - 20% in households.
    - 20% in the different manufacturing and services activities, and other.
    - 40% in agriculture.
    - 5% in thermoelectric plants that use water for cooling.
- The losses in water supply networks and in agriculture infiltrate to the aquifer.

Exercise

1. Make a "friendly diagram" with the information provided. Identify the data items provided according to the data item codes of the IRWS. Also identify the industrial activities according to the ISIC rev 4 standard.
2. Record the information in physical supply and use tables.
3. Try to identify the information missing by using the different relationships among data items.
4. With the information compiled calculate some indicators.

Abbreviations

CPC	Central Product Classification (version 2 is used in this example).
IRWS	International Recommendations for Water Statistics
ISIC	International Standard Industrial Classification of All Economic Activities (Revision 4 is used in this example).
RoW	Rest of the World. Used to designate economies to which Sugarland exports products or from which Sugarland imports products.
SEEA-Water	System of Environmental-Economic Accounts for Water.
SNA	System of National Accounts.

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WORKBOOK

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Exercise solutions

5. Make a "friendly diagram" with the information provided. Identify the data items provided according to the data item codes of the IRWS. Also identify the industrial activities according to the ISIC rev 4 standard.

Water in the economy

Activity	E.1 in hm3/year	ISIC Rev. 4 code	Remarks

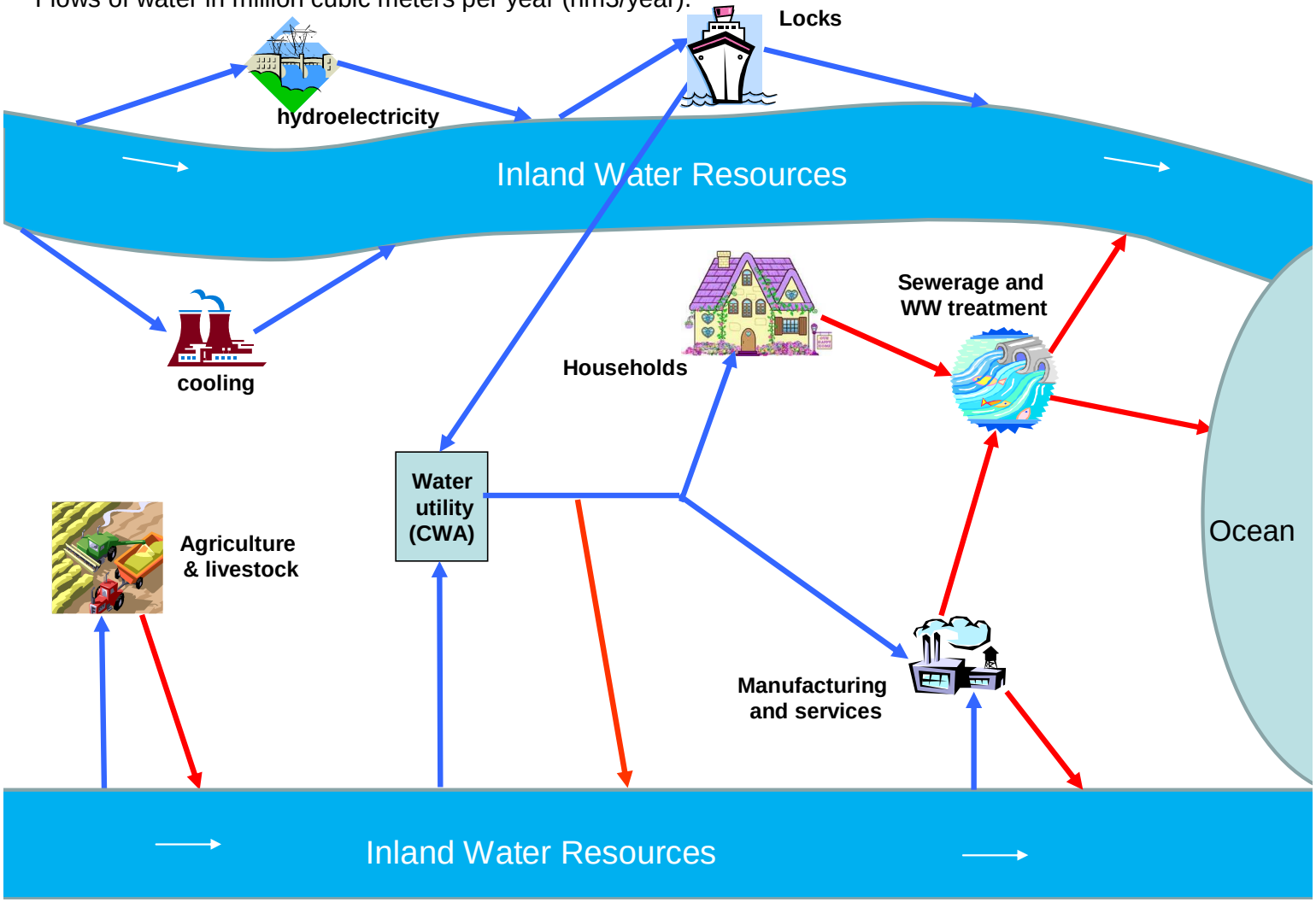
IRWS code and description	Quantity (million m3/year)	Calculation

Information about inland water resources and flows to/from economy

IRWS code and description	Quantity (million m3/year)	Calculation

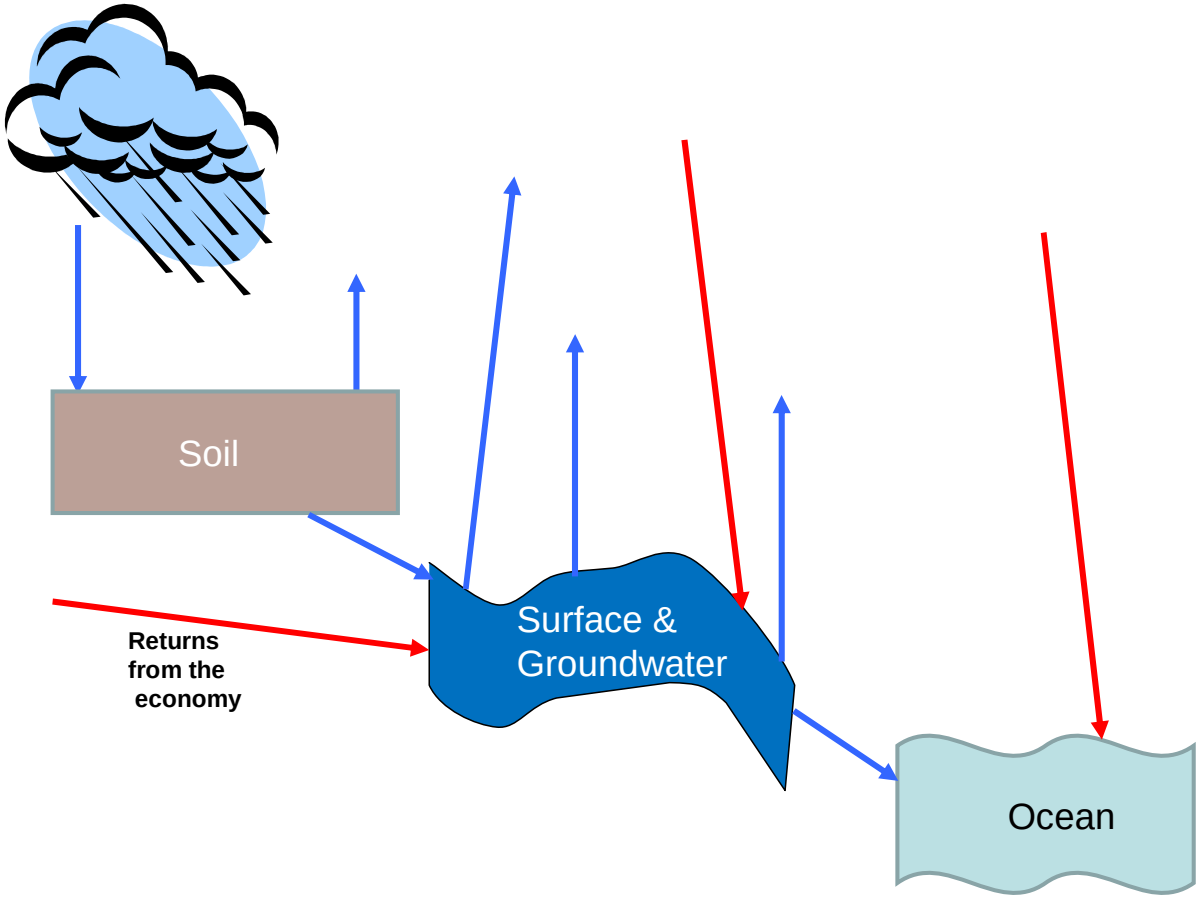
Shipland. Water flows in the economy 2010.

Flows of water in million cubic meters per year (hm3/year).



Shipland. Water flows to and from inland water resources

Flows of water in million cubic meters (hm3). Year 2010



6. Record the information in the physical supply and use tables, as well as in the physical accounts.

Supply table:

	SUPPLY ↓	Agriculture and livestock	Manufacture and services	Cooling (thermoelectricity)	Hydroelectricity	Water utilities (drinking water)	Sewerage (sewage collection and treatment)	Operation of waterway locks	House-holds	Environment to Economy	TOTAL
Natural inputs	Inland water resources-off steram uses										
Natural inputs	Inland water resources - instream uses										
CPC 18000-1	Drinking water										
CPC 18000-2	Bulk or raw water										
Residuals	Losses of water										
Residuals	Sewage to sewers										
Residuals	Untreated sewage to environment										
Residuals	Treated sewage to environment										
Residuals	Other water returns										
Residuals	"Water consumption"										
	TOTAL										

Use table

	USE ↑	Agriculture and livestock	Manufacture and services	Cooling (thermoelectricity)	Hydroelectricity	Water utilities (drinking water)	Sewerage (sewage collection and treatment)	Operation of waterway locks (ACP)	House-holds	Economy to Environment	TOTAL
Natural inputs	Inland water resources-off steram uses										
Natural inputs	Inland water resources - instream uses										
CPC 18000-1	Drinking water										
CPC 18000-2	Bulk or raw water										
Residuals	Losses of water										
Residuals	Sewage to sewers										
Residuals	Untreated sewage to environment										
Residuals	Treated sewage to environment										
Residuals	Other water returns										
Residuals	"Water consumption"										
	TOTAL										

Asset accounts

	Artificial reservoirs	Lakes	Rivers and streams	Aquifers	Soil water	TOTAL
Opening stock of water	**Opening A.1.1**	**Opening A.1.2**		**Opening A.2**		**Opening A.1 + Opening A.2**
Additions to stock						
Precipitation						
Inflows from other countries						
Inflows from other inland water resources						
Returns						
Reductions in stock						
Evaporation and/or transpiration (evapotranspiration)						
Outflows to other countries						
Outflows to other inland water resources						
Outflows to the sea						
Abstractions						
Closing stock of water	**Closing A.1.1**	**Closing A.1.2**		**Closing A.2**		**Closing A.1 + Closing A.2**

7. Try to identify the information missing by using the different relationships among data items.

8. With the information compiled calculate some indicators.

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Exercise solutions

9. Make a "friendly diagram" with the information provided. Identify the data items provided according to the data item codes of the IRWS. Also identify the industrial activities according to the ISIC rev 4 standard.

Water in the economy

The table below shows the abstractions of inland water resources (data item E.1 in the IRWS) for each activity.

Activity	E.1 in hm3/year	ISIC Rev. 4 code	Remarks
Water utilities	410	3600-1	Water utilities receive 133 hm3/year from the enterprise that operates the canal.
Agriculture, livestock and fisheries	487	01-03	
Manufacturing, services, and other similar activities	100	05-33, 38, 39, 41-43, 45-99	
Thermoelectric plants (cooling)	100	3510-1	
Hydroelectricity	9 861	3510-2	Water turbinated in hydroelectric plants is considered an abstraction for instream uses.
Operation of waterway locks	2 691	5222	Water used by locks is considered an abstraction. Only 2 558 hm3/yr are used for locks, and 133 is supplied to water utilities.

The table below shows other information about water in the economy.

IRWS code and description	Quantity (million m3/year)	Calculation
F.1. Supply of water from water utilities to households	232	
F.1. Supply from canal operator to water utilities	133	
I.1 Losses in drinking water supply networks	224	
I.1 Losses in agriculture (irrigation)	151	
H.2 Discharges of wastewater from sewers to the ocean	200	
H.1 Returns from agriculture	202	
H.1 Returns from hydroelectricity	9 861	No "water consumption"
H.1 Returns from locks	2 558	No "water consumption" 2691 - 133

"Water consumption" in agriculture	134	40% of 487-151
H.1 Returns from agriculture	202	487-151-134
"Water consumption" in households	46	20% of 232
F.3.1 Wastewater from households to the sewer network	186	232 - 46
"Water consumption" in manufacturing, services, and others	37	20% of 187
F.3.1 Wastewater from manufacturing, services, and others to the sewer network	70	Given
"Water consumption" in cooling	5	5% of 100
H.1 Returns from cooling	95	100 - 5

Information about inland water resources and flows to/from economy

It can be assumed that all the precipitation falls on the soil (data item B.1). A portion of the rain returns to the atmosphere as evapotranspiration (data item C.1), and the rest flows as surface runoff (data item D.5) or infiltrates to the aquifer (data item D.6). The evaporation from lakes and artificial reservoirs (data item C.1.1) is shown separate from evapotranspiration, and therefore it is subtracted from it.

IRWS code and description	Quantity (million m3/year)	Calculation
B.1. Precipitation	214 500	Given 76 000 km^2 x 2 822 mm/year.
C.1. Evapotranspiration	85 800	40% of B.1
C.1.1 Evaporation	500	This is shown as flowing from inland water resources, and the complement to C.1, 85 300 is shown as flowing from land (or "soil")

The following pages show all the information in "friendly diagrams"

Note that 1 hm^3 = 1 million cubic meters.

Shipland. Water flows in the economy 2010.

Flows of water in million cubic meters per year (hm3/year).

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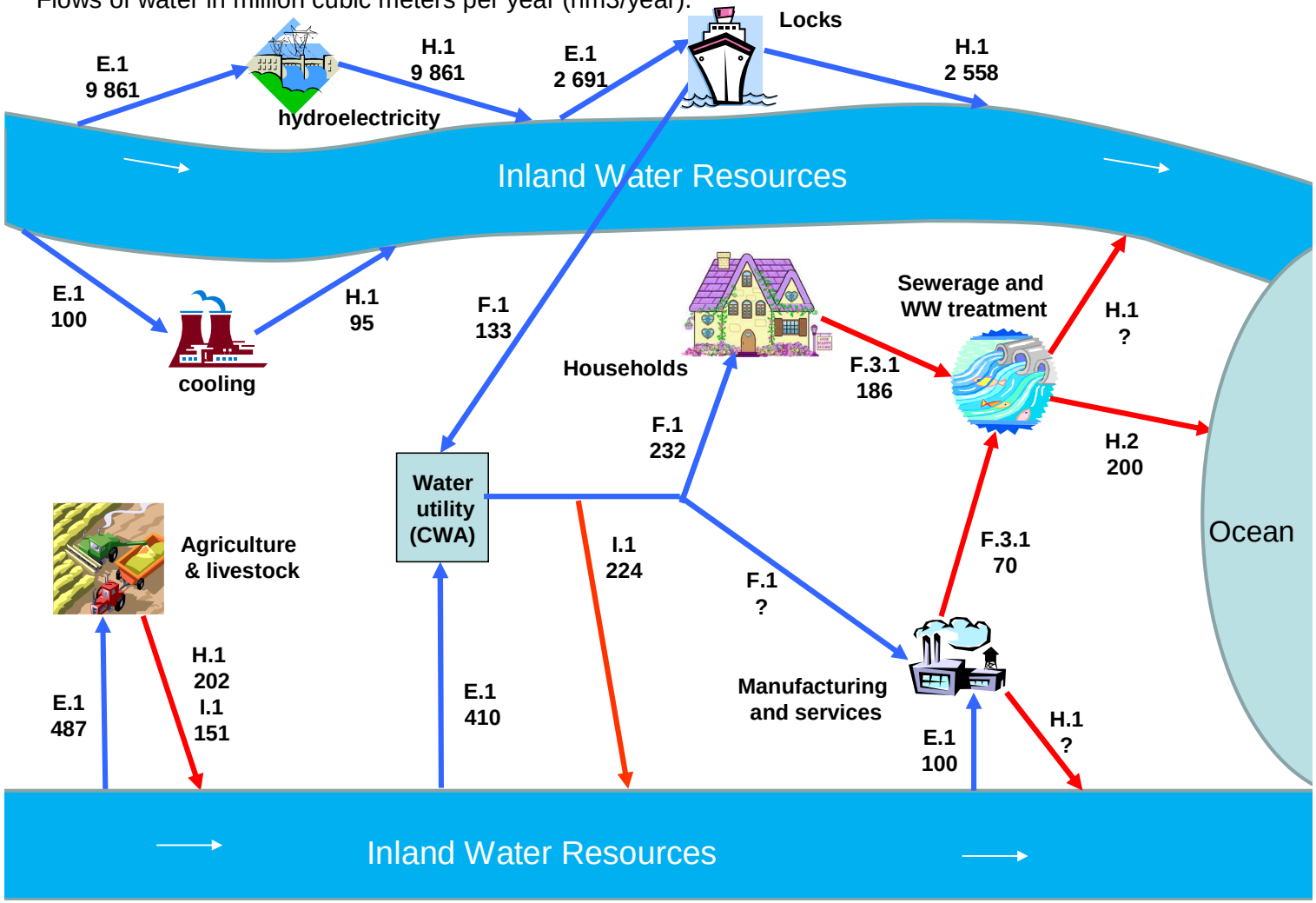
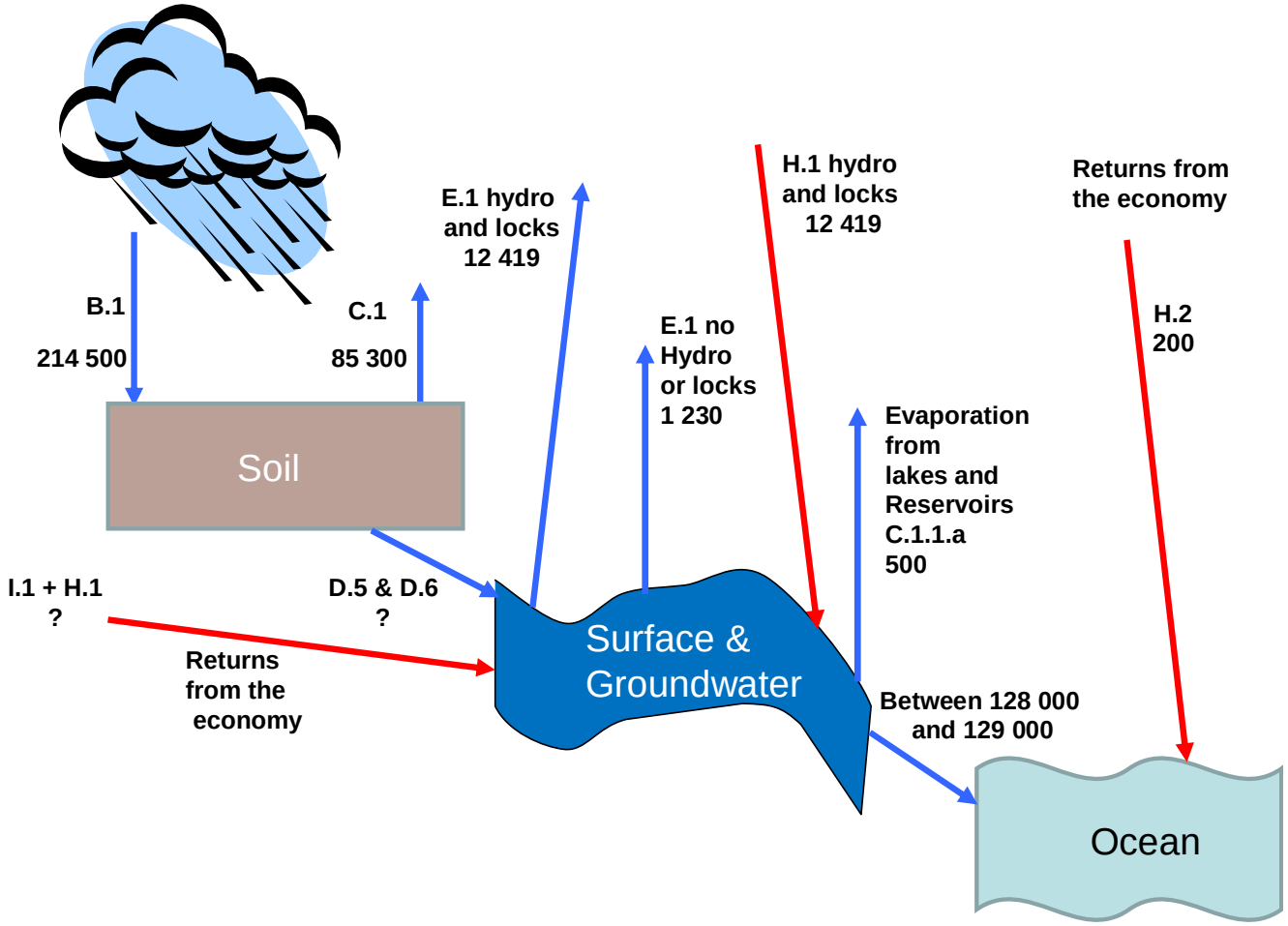


Shipland. Water flows to and from inland water resources

V4
12 November 2013

Flows of water in million cubic meters (hm3). Year 2010



10. Record the information in the physical supply and use tables, as well as in the physical accounts.

The following tables show the information recorded in the supply and use tables, as well as in the asset accounts. Some information is shown with question marks because it is missing.

Supply table:

		ISIC 01-03	ISIC 05-33, 41-43,38,39,45-99	ISIC 3510-1	ISIC 3510-2	ISIC 3600-1	ISIC 3700	ISIC 5222			
	SUPPLY	Agriculture and livestock	Manufacture and services	Cooling (thermoelectricity)	Hydroelectricity	Water utilities (drinking water)	Sewerage (sewage collection and treatment)	Operation of waterway locks	House-holds	Environment to Economy	TOTAL
Natural inputs	Inland water resources-off steram uses									1230	1230
Natural inputs	Inland water resources - instream uses									12419	12419
CPC 18000-1	Drinking water					?					?
CPC 18000-2	Bulk or raw water							133			133
Residuals	Losses of water	151				224					375
Residuals	Sewage to sewers		70						186		256
Residuals	Untreated sewage to environment						200				200
Residuals	Treated sewage to environment		?				?				0
Residuals	Other water returns	202		95	9 861			2 558			12716
Residuals	"Water consumption"	134	37	5	0	0		0	46		222
	TOTAL	**487**	**?**	**100**	**9861**	**?**	**?**	**2691**	**232**	13,649	?

Use table

		ISIC 01-03	ISIC 05-33, 41-43,38,39,45-99	ISIC 3510-1	ISIC 3510-2	ISIC 3600-1	ISIC 3700	ISIC 5222			
	USE ↑	Agriculture and livestock	Manufacture and services	Cooling (thermoelectricity)	Hydroelectricity	Water utilities (drinking water)	Sewerage (sewage collection and treatment)	Operation of waterway locks (ACP)	House-holds	Economy to Environment	TOTAL
Natural inputs	Inland water resources-off steram uses	487	100	100		410		133			1230
Natural inputs	Inland water resources - instream uses				9 861			2 558			12419
CPC 18000-1	Drinking water		?						232		?
CPC 18000-2	Bulk or raw water					133					133
Residuals	Losses of water									375	375
Residuals	Sewage to sewers						256				256
Residuals	Untreated sewage to environment									200	200
Residuals	Treated sewage to environment									?	?
Residuals	Other water returns									12716	12716
Residuals	"Water consumption"									222	222
	TOTAL	**487**	**?**	**100**	9 861	**543**	**256**	**2691**	**232**	?	?

Asset accounts

	Artificial reservoirs	Lakes	Rivers and streams	Aquifers	Soil water	TOTAL
Opening stock of water	**Opening A.1.1**	**Opening A.1.2**		**Opening A.2**		**Opening A.1 + Opening A.2**
Additions to stock	**?**				**214 500**	**?**
Precipitation					214 500	214 500
Inflows from other countries	0					0
Inflows from other inland water resources	128 700					128 700
Returns from the economy	?					?
Reductions in stock	**?**				**214 000**	**?**
Evaporation and/or transpiration (evapotranspiration)	500				85 300	85 800
Outflows to other countries						0
Outflows to other inland water resources					128 700	128 700
Outflows to the sea	?					?
Abstractions	13 649					13 649
Closing stock of water	**Closing A.1.1**	**Closing A.1.2**		**Closing A.2**		**Closing A.1 + Closing A.2**

11. Try to identify the information missing by using the different relationships among data items.

A total of 410 million cubic meters per year (hm3/yr) of water are abstracted by water utilities. Water utilities receive 133 hm3/yr from the canal operator, so in total 543 hm3/yr are injected to the water supply network, of which 224 hm3/yr are losses, and 232 are supplied to households. The residual is 87 hm3/yr, which is the amount supplied to manufacturing and service industries.

Therefore, the water utility supply a total of 232 + 87 hm3/yr.

Therefore, manufacturing and service industries use 187 hm3/yr, less 37 hm3/yr "consumed," less 70 hm3/yr discharged to the sewer network yields a residual of 80 hm3/yr, which is the amount returned to inland water resources.

The sewer network receives 70 hm3/yr of wastewater from manufacturing and services, and 186 hm3/yr from households = 256, out of which, 200 are discharged to the sea, and the rest, 56 is discharged to inland water resources.

With this data it is possible to complete the tables as shown below:

Completed supply table.

		ISIC 01-03	ISIC 05-33, 41-43,38,39,45-99	ISIC 3510-1	ISIC 3510-2	ISIC 3600-1	ISIC 3700	ISIC 5222			
	SUPPLY ↓	Agriculture and livestock	Manufacture and services	Cooling (thermoelectricity)	Hydroelectricity	Water utilities (drinking water)	Sewerage (sewage collection and treatment)	Operation of waterway locks	House-holds	Environment to Economy	TOTAL
Natural inputs	Inland water resources-off steram uses									1230	1230
Natural inputs	Inland water resources - instream uses									12419	12419
CPC 18000-1	Drinking water					319					319
CPC 18000-2	Bulk or raw water							133			133
Residuals	Losses of water	151				224					375
Residuals	Sewage to sewers		70						186		256
Residuals	Untreated sewage to environment						210				210
Residuals	Treated sewage to environment		80				46				126
Residuals	Other water returns	202		95	9861			2558			12716
Residuals	"Water consumption"	134	37	5	0	0		0	46		222
	TOTAL	**487**	**187**	**100**	**9861**	**543**	**256**	**2691**	**232**	13,649	28 006

Completed use table

		ISIC 01-03	ISIC 05-33, 41-43,38,39,45-99	ISIC 3510-1	ISIC 3510-2	ISIC 3600-1	ISIC 3700	ISIC 5222			
	USE ↑	Agriculture and livestock	Manufacture and services	Cooling (thermoelectricity)	Hydroelectricity	Water utilities (drinking water)	Sewerage (sewage collection and treatment)	Operation of waterway locks (ACP)	House-holds	Economy to Environment	TOTAL
Natural inputs	Inland water resources-off steram uses	487	100	100		410		133			1230
Natural inputs	Inland water resources - instream uses				9861			2558			12419
CPC 18000-1	Drinking water		87						232		319
CPC 18000-2	Bulk or raw water					133					133
Residuals	Losses of water										0
Residuals	Sewage to sewers						256				256
Residuals	Untreated sewage to environment									210	210
Residuals	Treated sewage to environment									46	46
Residuals	Other water returns									12796	12796
Residuals	"Water consumption"									222	222
	TOTAL	**487**	**187**	**100**	**9861**	**543**	**256**	**2691**	**232**	13,274	27 631

Completed asset accounts

	Artificial reservoirs	Lakes	Rivers and streams	Aquifers	Soil water	TOTAL
Opening stock of water	**Opening A.1.1**	**Opening A.1.2**		**Opening A.2**		**Opening A.1 + Opening A.2**
Additions to stock	**141 927**				**214 500**	**356 427**
Precipitation					214 500	214 500
Inflows from other countries	0					0
Inflows from other inland water resources	128 700					128 700
Returns from the economy	13 227					13 227
Reductions in stock	**142 567**				**214 000**	**356 427**
Evaporation and/or transpiration (evapotranspiration)	500				85 300	85 800
Outflows to other countries						0
Outflows to other inland water resources					128 700	128 700
Outflows to the sea	128 418					128 278
Abstractions	13 649					13 649
Closing stock of water	**Closing A.1.1**	**Closing A.1.2**		**Closing A.2**		**Closing A.1 + Closing A.2**

A sequence of water flows can also be calculated as follows:

1	Renewable water	Resources	Uses	Balance
B.1	Precipitation	214 500		
B.2	Inflows from other countries or territories	0		
C.1	Evapotranspiration		85 800	
Bal01	**Total Renewable Water Resources (TRWR)**			**128 700**

2	Ouflowing TRWR & returns	Resources	Uses	Balance
	Total Renewable Water Resources (TRWR)	128 700		
H.1	Returns of water to inland water resources	13 227		
E.1 (offstream)	Abstractions from inland water resources (offstream)		1 230	
E.1 (instream)	Abstractions from inland water resources (instream)		12 419	
Bal02	**Outflowing TRWR & returns**			**128 278**

3	Water supplied and received	Resources	Uses	Balance
E.1 (offstream)	Abstractions from inland water resources (offstream)	1 230		
E.1 (instream)	Abstractions from inland water resources (instream)	12 419		
E.2 & E.3	Abstractions from other sources (sea & precipitation)	0		
G.2	Imported water	0		
F.3.2/G.3.2	Reused water	0		
I.1	Losses in transportation and distribution		375	
F.2	Exported water		0	
Bal 03	**Water supplied or self supplied to resident users**			**13 274**

4	Wastewater generated	Resources	Uses	Balance
Bal 03	Water supplied/received by resident users	13 274		
	"Water consumption"		222	
Bal04	**Wastewater (as defined in SEEA, regardles of quality)**			**13 052**

5	Final balance of wastewater	Resources	Uses	Balance
Bal04	Wastewater (as defined in SEEA, regardless of quality)	13 052		
I.1	Losses in transportation and distribution	375		
H.2	Returns to the sea		200	
F.3.2/G.3.2	Water for reuse		0	
H.1	**Returns of water to inland water resources**			**13 227**

6	Final balance of discharges	Resources	Uses	Balance
Bal02	Outflowing TRWR & returns	128 278		
C.2.1	Outflows to neighboring countries or territories		0	
C.2.2	Outflows to the sea		128 278	
Bal05	**Net changes in Inland Water Resources**			**0**

No information is provided about the levels of the stocks of inland water resources. For the purposes of the exercise 50 000 million cubic meters is used as the opening level of stocks to complete the table. This is only to provide an order of magnitude of the level of stocks.

7	Balance Sheet	Opening	Changes	Balance
A.	Inland water resources	50 000	0	50 000

More details can be added to the sequence as follows:

1	Renewable water	Resources	Uses	Balance
B.1	Precipitation	214 500		
B.2	Inflows from other countries or territories	0		
B.2.1	Inflows secured through treaties			
B.2.2	Inflows not secured through treaties			
C.1	Evapotranspiration		85 800	
C.1.1	Evaporation in lakes			
C.1.1	Evaporation in artificial reservoirs		500	
	Rest of evaporation and transpiration			
Bal01	**Total Renewable Water Resources (TRWR)**			**128 700**

2	Ouflowing TRWR & returns	Resources	Uses	Balance
	Total Renewable Water Resources (TRWR)	128 700		
H.1	Returns of water to inland water resources	13 227		
E.1 (offstream)	Abstractions from inland water resources (offstream)		1 230	
E.1 ISIC 36-1	For drinking water supply		543	
E.1 ISIC 01-03	For agriculture		487	
E.1 ISIC 3510-1	For cooling		100	
E.1 Other ISIC	For mining, manufacturing and services		100	
E.1.1	From surface water			
E.1.2	From groundwater			
Freshwater	From inland freshwater resources		1 230	
Nonfresh	From inland non freshwater (brackish or marine water)		0	
E.1 (instream)	Abstractions from inland water resources (instream)		12 419	
E.1 ISIC 3510-2	For hydroelectricity		9 861	
E.1 ISIC 5222	For waterway locks		2 558	
Bal02	**Outflowing TRWR & returns**			**128 278**

3	Water supplied and received	Resources	Uses	Balance
E.1 (offstream)	Abstractions from inland water resources (offstream)	1 230		
E.1 (instream)	Abstractions from inland water resources (instream)	12 419		
E.2 & E.3	Abstractions from other sources (sea & precipitation)	0		
G.2	Imported water	0		
F.3.2/G.3.2	Reused water	0		
I.1	Losses in transportation and distribution		375	
I.1 ISIC 36-1	Losses in drinking water supply networks		224	
I.1 ISIC 01	Losses in irrigation canals and irigation methods		151	
F.2	Exported water		0	
Bal 03	**Water supplied or self supplied to resident users**			**13 274**
F	To households			232
F	To agriculture			336
F	To cooling			100
F	To mining manufacturing and services			187
F	To hydroelectricity			9 861
F	To waterway locks			2 558

4	Wastewater generated	Resources	Uses	Balance
Bal 03	Water supplied/received by resident users	13 274		
	"Water consumption"		222	
	In households		46	
	In agriculture		134	
	In cooling		5	
	In mining manufacturing and services		37	
Bal04	**Wastewater (as defined in SEEA, regardles of quality)**			**13 052**

5	Final balance of wastewater	Resources	Uses	Balance
Bal04	Wastewater (as defined in SEEA, regardless of quality)	13 052		
	From households	186		
	From agriculture	202		
	From cooling	95		
	From mining manufacturing and services	150		
	From hydroelectricity	9 861		
	From waterway locks	2 558		
F.3	Collected in sewer systems	256		
PubTreated	Treated in "public" wastewater treatment plants	56		
I.1	Losses in transportation and distribution	375		
H.2	Returns to the sea		200	
F.3.2/G.3.2	Water for reuse		0	
H.1	**Returns of water to inland water resources**			**13 227**

6	Final balance of discharges	Resources	Uses	Balance
Bal02	Outflowing TRWR & returns	128 278		
C.2.1	Outflows to neighboring countries or territories		0	
C.2.1.1	Secured by treaties			
C.2.1.2	Not secured by treaties		0	
C.2.2	Outflows to the sea		128 278	
Bal05	**Net changes in Inland Water Resources**			**0**

As mentioned before, the opening level of stocks was assumed to be 50 000 million cubic meters. More details could be added and it is likely that some measurements are available, such as the volume of water stored in artificial reservoirs and in lakes.

7	Balance Sheet	Opening	Changes	Balance
A.	Inland water resources	50 000	0	50 000
A.1.1	Water in artificial reservoirs	9 000		9 000
A.1.2	Water in lakes	1 000		1 000
A.2	Groundwater	40 000		40 000
	Other			

12. With the information compiled calculate some indicators.

The following indicators are derived from the tables shown above. In this example only physical information is provided, therefore all the indicators refer to physical quantities. By combining the physical data with monetary data combined indicators can be calculated.

INDICATORS			
Natural endowments			
Total Renewable Water Resources (TRWR)	Balance 01	128 700	hm3/yr
Per capita	Balance 01/Population	36 771	m3/person/yr
Precipitation	B.1	214 500	hm3/yr
Per area	B.1/area	2 822	mm/year
Total Actual Renewable Water Resources (TARWR)	Balance 01-C.2.1.1	128 700	hm3/yr
Evapotranspiration as proportion of precipitation	C.1/B.1	40%	
Water dependency indicators			
Dependency from other countries	(B2+G2)/Balance 01	0%	
Dependency from precipitation	(B1-C1)/Balance 01	100%	
Dependency from alternate sources	(E2+E3)/Balance 01	0%	
Water development			
Offsteram abstractions as proportion of TRWR	E.1offs/Balance 01	1%	
Proportion of offstream abstractions that is freshwater	Freshwater/E.1offs	100%	
Total abstractions as proportion of TRWR	E.1/Balance 01	11%	
Proportion of offstream abstractions for agriculture	E.1 ISIC 01-03/E.1offs	40%	
Proportion of offstream abstractions for drinking water	E.1 ISIC 36-1/E.1offs	44%	
Proportion of offstream abstractions for cooling	E.1 ISIC 35-1/E.1offs	8%	
Physical efficiency			
Losses as proportion of offstream abstractions	I.1/E.1offstream	30%	
Reuse as proportion of offstream water supplied	F.3.2/(Balance 03-E1ins)	0%	
Wastewater management			
Proportion of wastewater gen by HH & "indus" collected	F.3/Bal 04 (HH & "indus")	76%	
Proportion of wastewater collected that is treated	F.3/PubTreated	22%	