

Ecosystem Service	Surface water for drinking
CICES class name	Surface water for drinking
CICES Section	Provisioning (Abiotic)
CICES Class code	4.2.1.1

Brief Description

- Drinking water from aboveground sources
- Natural, surface water bodies that provide a source of drinking water

Sample Indicators









Indicator values from			
Experiment or direct measurement		Survey	
Expert assessment		Statistical- or census data	
Model or GIS		Literature values	
Stakeholder participation		Not provided	

Table 1: Field Scale


Indicator	Unit	Indicator values from
^[1] Annual total drainage	mm	

Table 2: Farm Scale







































Indicator	Unit	Indicator values from
^[2] Mean annual water flow	$\text{m}^3 * \text{s}^{-1} * \text{ha}^{-1}$	
^[3] Streamflow calculated by SWAT model	$\text{m}^3 * \text{time}^{-1}$	
^[3] Surface runoff calculated by application of ECOSER protocol (www.eco-ser.com.ar)	$\text{m}^3 * \text{ha}^{-1}$	

Table 3: Regional Scale

Indicator	Unit	Indicator values from
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[1] Annual total drainage	mm	
[5, 12] Precipitation – evapotranspiration, calculated with InVEST model)	$m^3 * ha^{-1} * yr^{-1}$	
[7] Surface water yield: mean annual precipitation - mean annual evapotranspiration; calculated with InVEST model.	mm	
[13] Water yield: calculated as annual precipitation - evapotranspiration	$m^3 * area^{-1} * yr^{-1}$	
[11] Potential water yield, calculated as precipitation - evapotranspiration	mm	 , 
[16] Provisioning of water: Groundwater recharge rate calculated from water balance	mm	
[14] Annual average water yield	$mm * yr^{-1}$	
[14] Annual sectoral water yield (e.g., domestic, agriculture and industry	$mm * yr^{-1}$	
[8] Runoff: renewable water supply. Values were normalized [0-1] using benchmark values where available and observed values otherwise.	mm	
[14] Annual river runoff	$m^3 * yr^{-1}$	
[15] Annual water flow that is available from surface waters	$mm * yr^{-1}, m^3 * yr^{-1}$	
[14] Water level	m	
[14] Number of extreme (runoff) events	$\# * yr^{-1}$	
[14] Annual average sediment in rivers	$t * yr^{-1}$	
[14] Total dissolved solids	$mg * l^{-1}$	
[14] Leakage of nutrients	$kg * ha^{-1} * yr^{-1}$	
[9] Surface area of water bodies	ha	 ,  , 
[9] Number of traditional water sources	#	 ,  , 
[6] Freshwater supply: values for land cover classes. The matrix by Burkhard et al., 2012 (DOI:10.1016/j.ecolind.2011.06.019) was adapted and used in this study.	Index 0 - 5	
[10] Water for drinking and non-drinking uses: expert-based index for ecosystem service supply by land cover class [1-5], multiplied by the area of the land cover class	km^2	 ,  , 
[10] Water for drinking and non-drinking uses' value: expert-based index for ecosystem service supply by land cover class [1-5], multiplied by the area of the land cover class and a literature-based monetary value of ES	$km^2, \$ * ha^{-1} * yr^{-1}$	 ,  , 
[11] Rating of current service supply per land use class by expert-stakeholders	Rating 0 - 10	 , 
[11] Rating of increases/decreases of service provision in scenarios, relative to the status quo	%	 , 
[17] Water purification and provision: $W = NPP * (1 - VCNPP) * IC_s * S_{cf} * 1.75$		



With: W – water purification and provision, NPP – Net Primary Production [0-1000], VCNPP – coefficient of variation of NPP [0–1], IC _s – soil infiltration capacity [0–1], S _{cf} – “slope average” correction factor of the study area [0–1]		
[21] Freshwater recharge from the entire landscape	m ³ / (km ² * year)	

Table 4: National Scale

Indicator	Unit	Indicator values from
[18] Supply and demand of drinking water, calculated by multiplying modelled average surface water runoff by the number of people living downstream and the average estimated domestic water use	m ³ * yr ⁻¹	
[19] High Nature Value farmland	Not specified	

Table 5: Multinational Scale

Indicator	Unit	Indicator values from
[20] Freshwater: values for Corine land cover classes based on values published by Burkhard et al. (2009; DOI: 10.3097/LO.200915) and modified for the context of riparian zones.	Index 0 - 5	

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²⁵* The impact area discussed on this factsheet is not a focus of the cited paper

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