Water quality management from source to sea: from global commitments to coordinated implementation

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S2S PLATFORM

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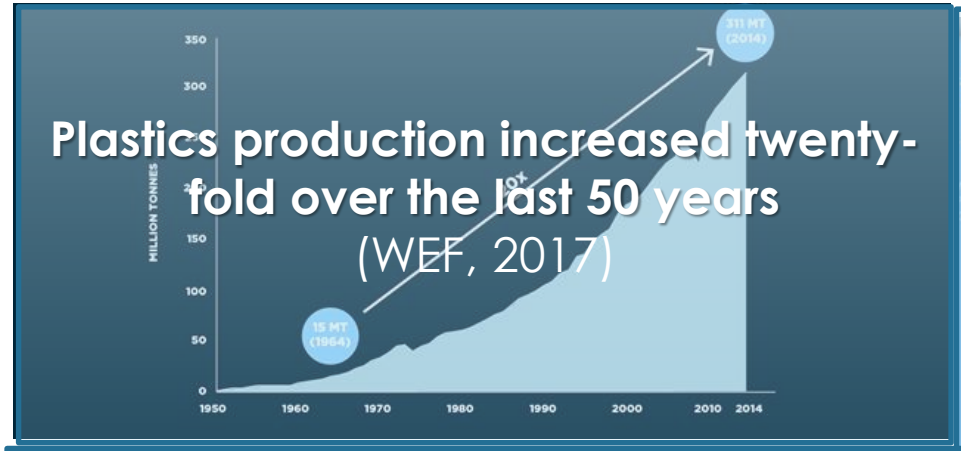
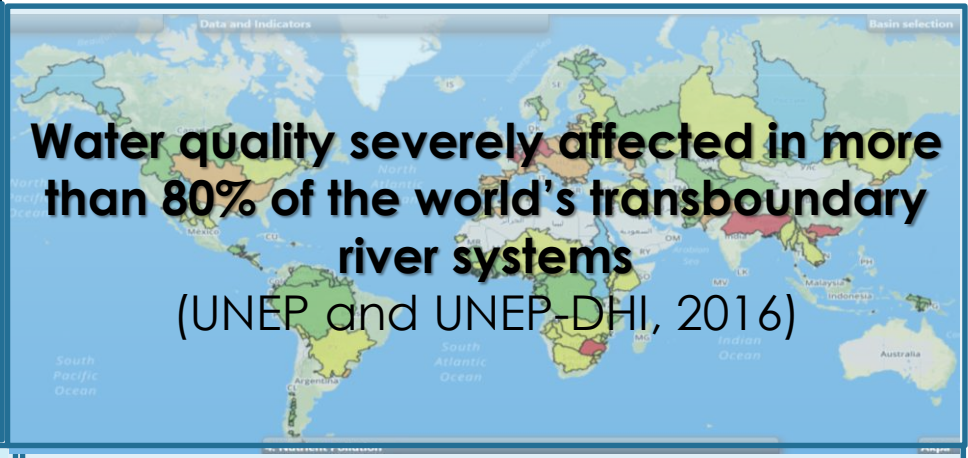
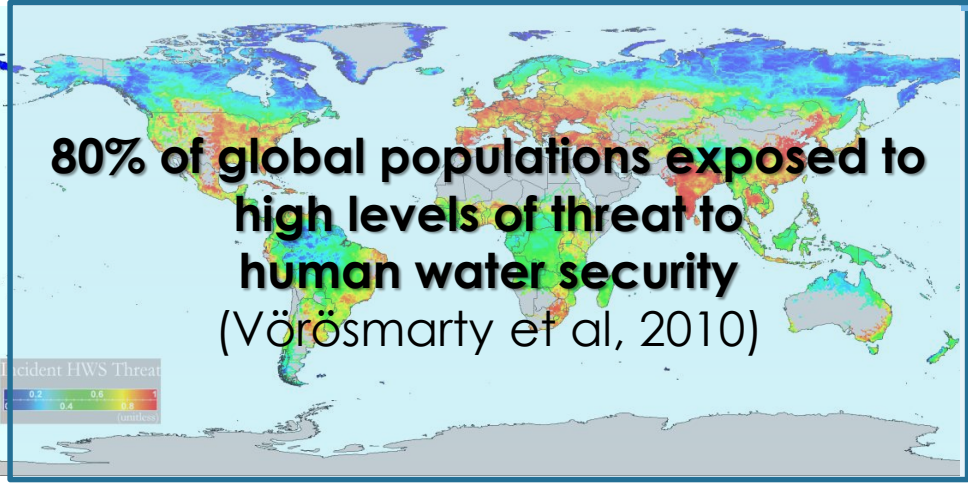


Plastics production increased twenty-fold over the last 50 years
(WEF, 2017)

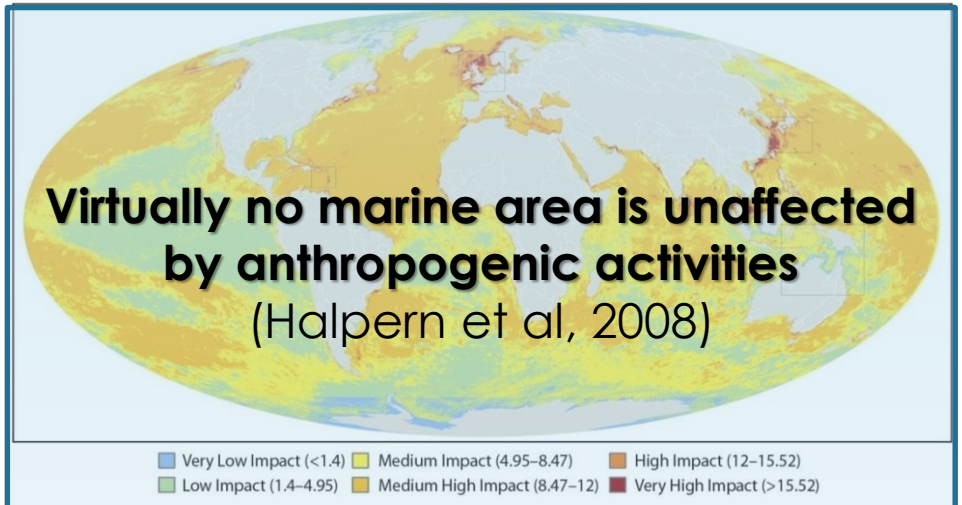


Water quality severely affected in more than 80% of the world's transboundary river systems
(UNEP and UNEP-DHI, 2016)

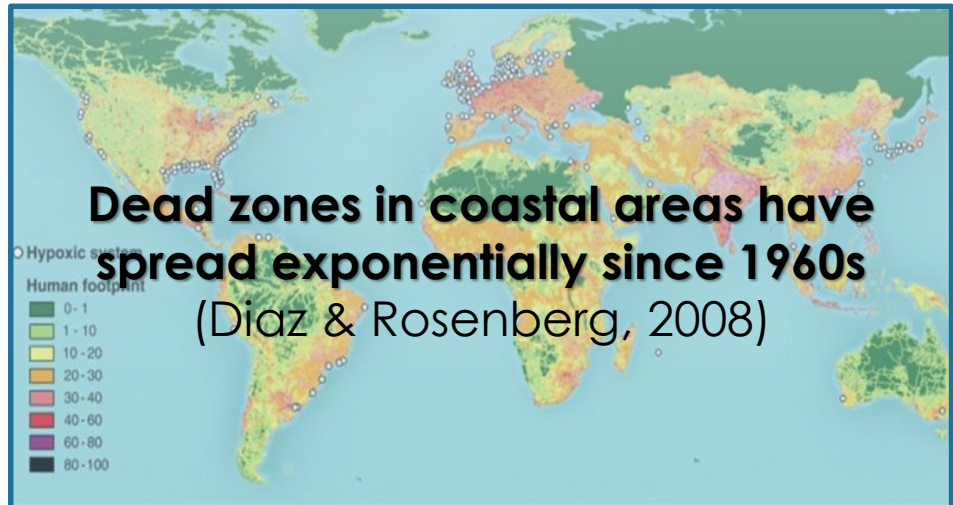


80% of global populations exposed to high levels of threat to human water security
(Vörösmarty et al, 2010)

20% of the world's aquifers are being overexploited, some massively so
(Gleeson et al, 2012)



Virtually no marine area is unaffected by anthropogenic activities
(Halpern et al, 2008)



Dead zones in coastal areas have spread exponentially since 1960s
(Diaz & Rosenberg, 2008)

Worlds apart?

Fresh

- Rivers, lakes and aquifers
- Hydrologists
- Water supply engineers
- Freshwater as resource
- Drinking water quality
- IWRM
- Water allocation
- Floods and droughts
- SDG goal 6
- UN Watercourses and transboundary rivers conventions
- GWP, WWC, UN-Water

Salty

- Coastal and marine waters
- Marine scientists
- Coastal and port engineers
- Fish – and land - as resource
- Eutrophication, acidification, litter
- ICM
- Marine spatial planning
- Shore protection
- SDG goal 14
- UNCLOS, MARPOL, London and Regional Seas Conventions,..
- IOC, NOAA, UN-Oceans

The Sustainable Development Goals (SDGs)

A framework for development until 2030

”…an ***integrated*** and ***indivisible*** agenda, balancing the social, economic and environmental dimensions of sustainable development”

SDG water quality targets and indicators

6.3 “By 2030, **improve water quality by reducing pollution**, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally”

14.1 “By 2025, **prevent and significantly reduce marine pollution** of all kinds, in particular from land-based activities, including marine debris and nutrient pollution”

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Economic growth

Climate change

Consumption and production

Terrestrial ecosystems

SDGs

Biodiversity

Sustainable cities

Oceans and fisheries

Food

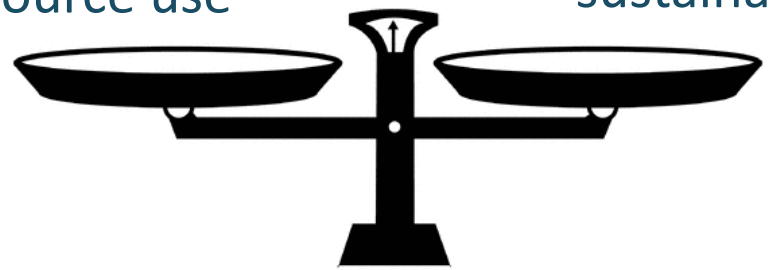
Energy

Water

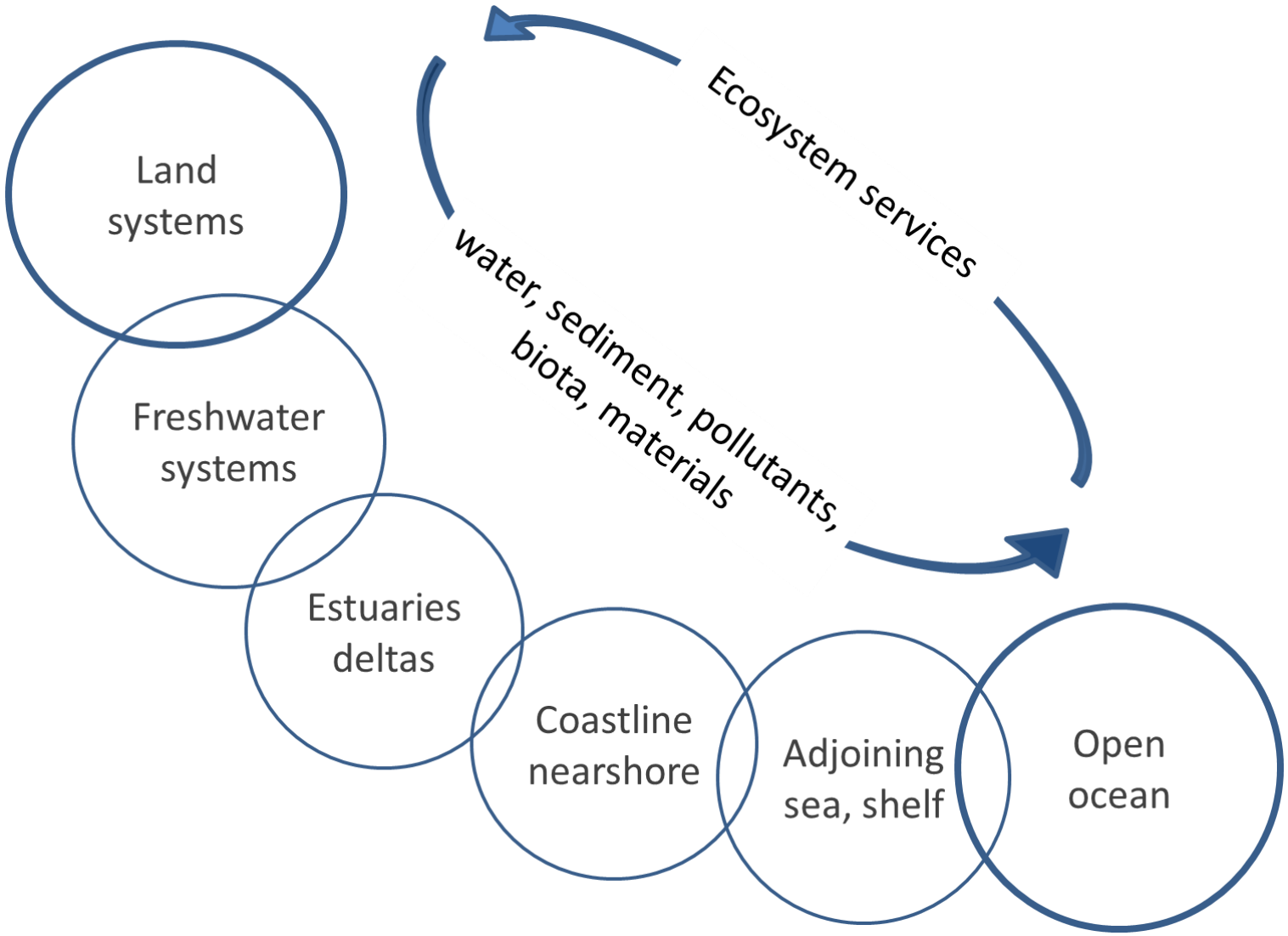
Etc.

Economic growth
Resource use

Social and environmental sustainability



SDG 6 and 14 – actual links



Granit, Liss Lymer, Olsen, Tengberg, Nõmmann and Clausen. 2017. Water Policy Int.

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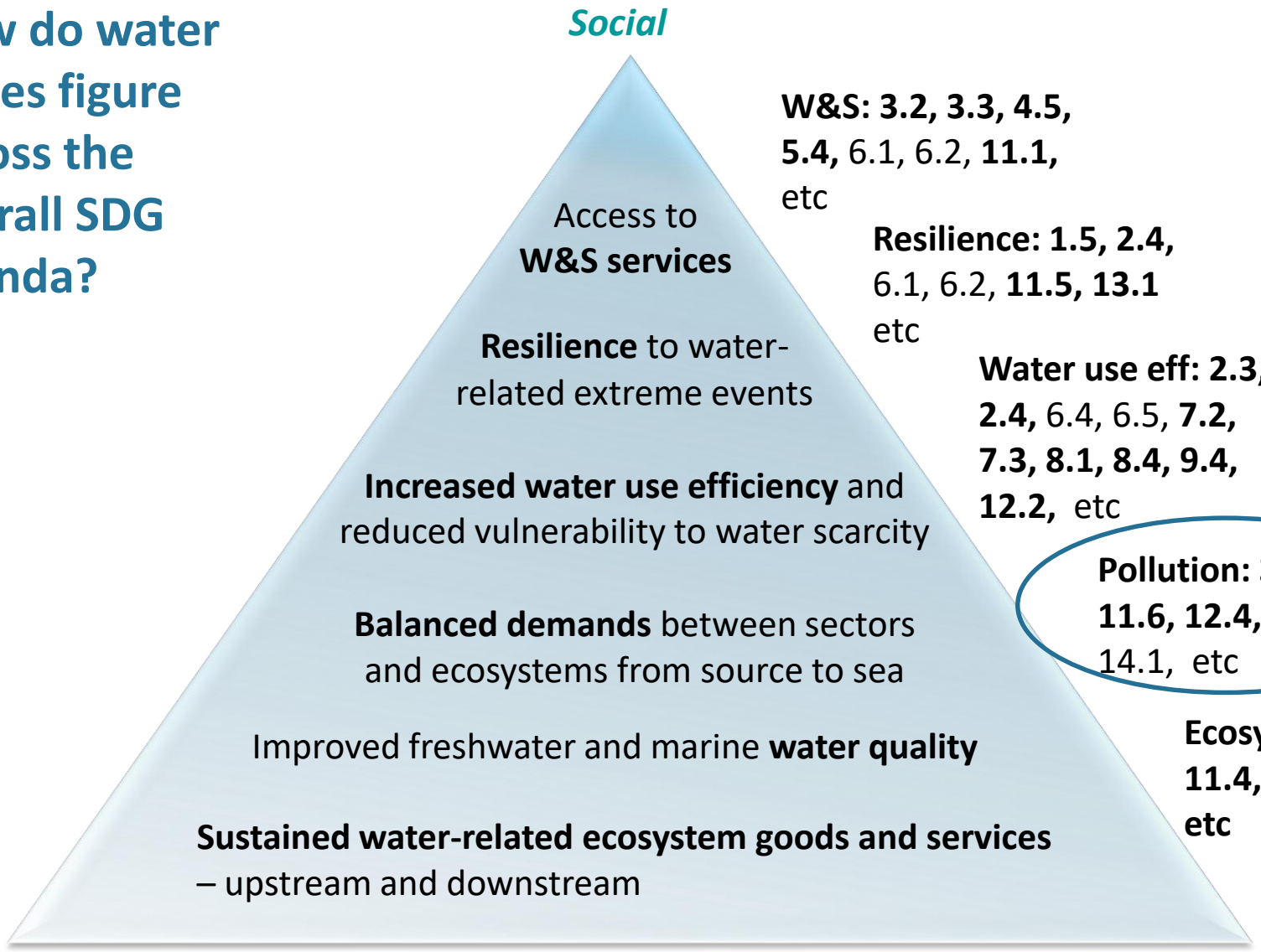
How do water issues figure across the overall SDG agenda?



W&S: 3.2, 3.3, 4.5, 5.4, 6.1, 6.2, **11.1,** etc

Resilience: 1.5, 2.4, 6.1, 6.2, **11.5, 13.1** etc

Water use eff: 2.3, 2.4, 6.4, 6.5, **7.2, 7.3, 8.1, 8.4, 9.4, 12.2,** etc

Pollution: 3.9, 6.3, **11.6, 12.4, 12.5,** 14.1, etc

Ecosystems: 6.6, **11.4,** 14.2, **15.1, etc**

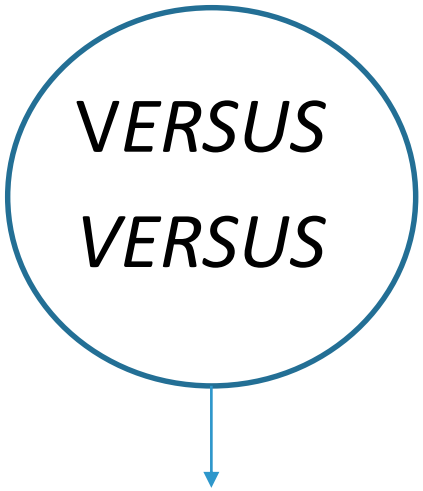
Synergies and conflicts between SDG targets

Water quality *AND* Ecosystems

Water quality *AND* Health

Water quality *VERSUS* Increased production

Water quality *VERSUS* Economic growth



Depends on *HOW* it is achieved!

Do the SDGs offer a framework to address such conflicts?

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How to measure sustainable production?

Sustainable…	Focus of indicator & metadata
Agriculture (2.4)	Focus on maintained natural resource base to ensure continued productivity
Energy (7.2 & 7.3)	Renewable energy share and energy efficiency/intensity
Economic growth / resource efficiency in consumption and production (8.4)	Material footprint
Industries (9.4)	CO2 emission per unit of value added
Cities (11.6)	Air quality and urban solid waste collection/disposal
Consumption and production (12.2 & 12.4)	Material footprint + hazardous waste generated and treated

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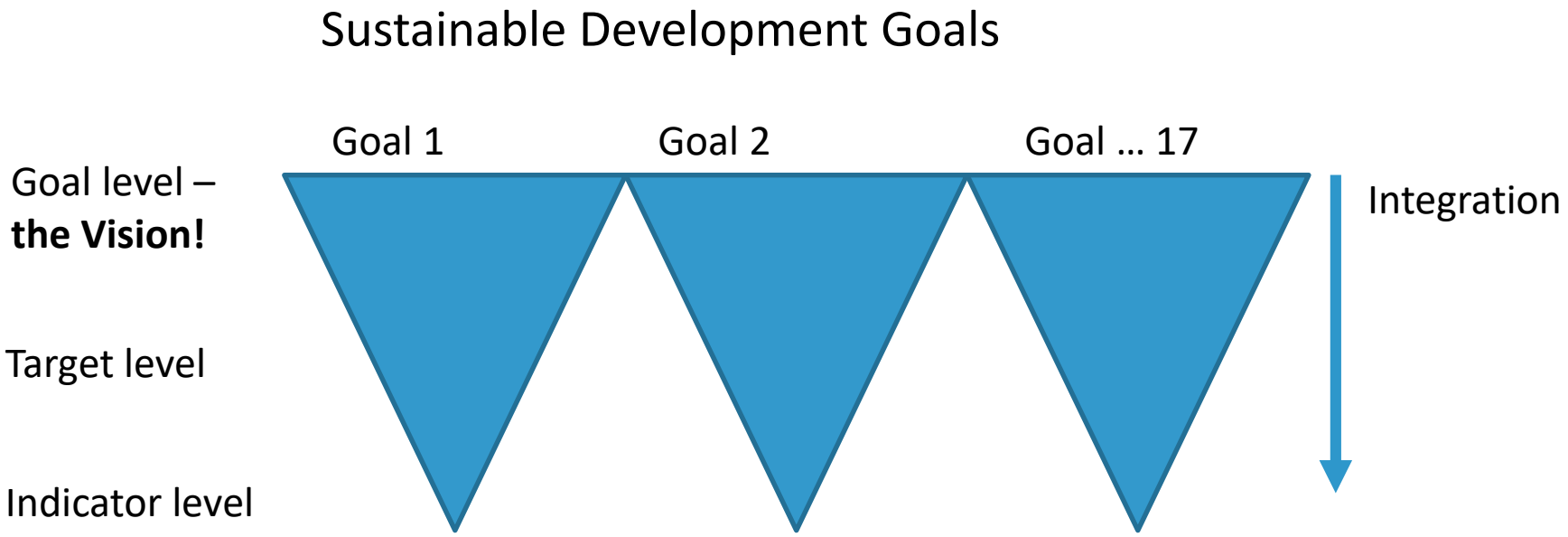
Don’t lose sight of the vision!



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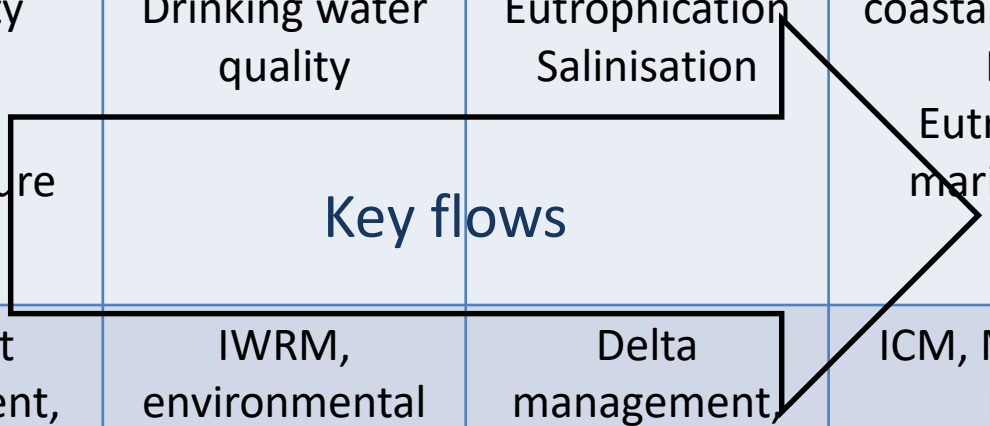
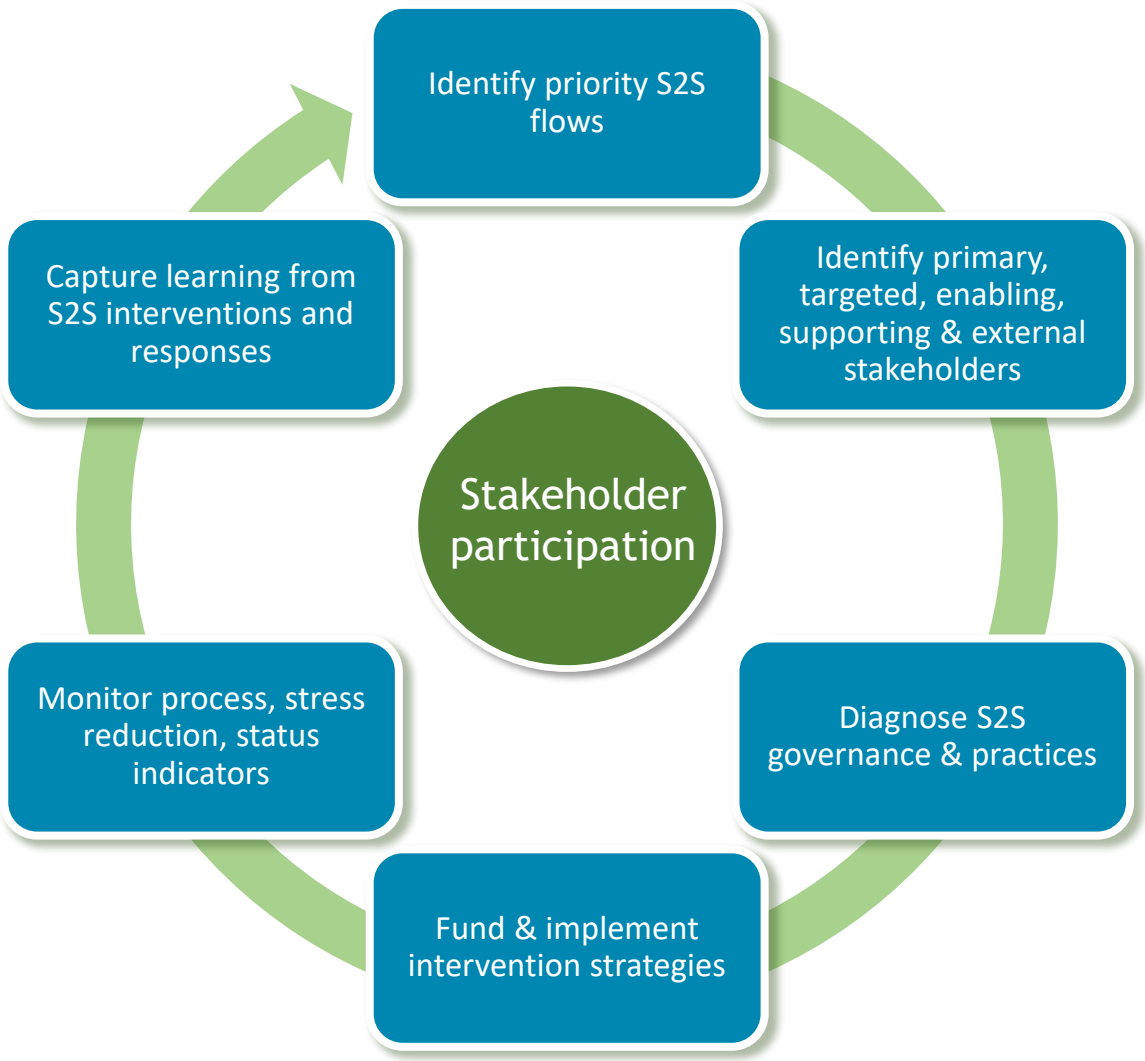
Integrating approaches progressing, but challenges with sectoral management in the S2S continuum persist

	Land/ terrestrial	**Freshwater systems**	**Deltas/ estuaries**	**Nearshore coast/Adjoining sea /Open ocean**
Common goals	Sustainable use and long-term productivity of ecosystems			
Different areas of focus	Increased productivity (e.g. food), housing, infrastructure	Water allocation Drinking water quality	Flood risk Eutrophication Salinisation	Allocation of uses of coastal/marine space Fisheries Eutrophication/ marine pollution
Different management tools	Land/forest management, urban and land use planning	IWRM, environmental flows	Delta management, IWRM, ICM, MSP	ICM, Marine Spatial Planning



What does a source-to-sea (S2S) perspective bring?



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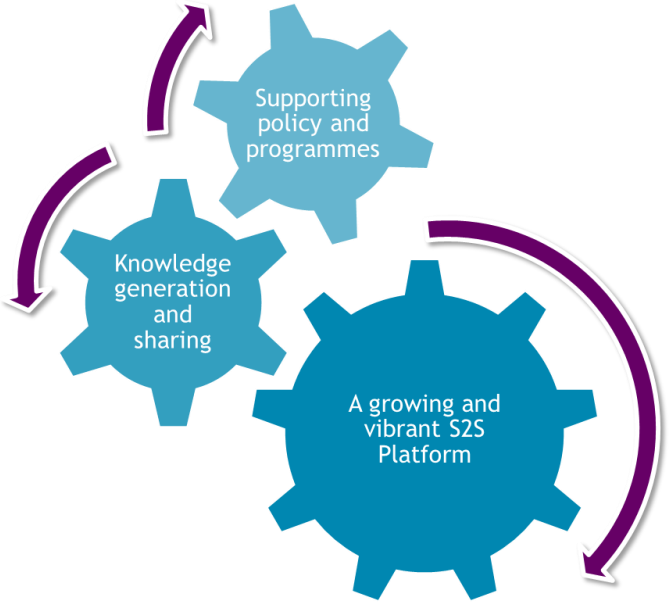
Action Platform for Source-to-Sea Management



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Thanks to the **Action Platform for Source-to-Sea Management**

The writing teams:

Birgitta Liss Lymer, Joshua Weinberg and Torkil J. Clausen (Water quality from source to sea – from global commitments to coordinated implementation, 2017)

Jens Berggren and Birgitta Liss Lymer (Source to Sea and the Sustainable Development Goals - linkages between freshwater and marine targets, 2016)

Jakob Granit, Birgitta Liss Lymer, Stephen B. Olsen, Anna Tengberg and Sulev Nommann (A conceptual framework for the governance and management of resources in a source-to-sea continuum, 2016-2017)

and;