



# Starting at the source to save the ocean



The ocean is in far greater peril than most people are aware. Humans have put unsustainable pressure on the world's oceans, creating enormous risks for us and all present and future life on Earth. Solving this requires a holistic approach: today's governance systems are too fragmented to halt the destructive practices that are putting the ocean, and our lives, in jeopardy. But there are solutions. This action brief explains how a source-to-sea approach to governance can help us save the oceans.

## WE RELY ON HEALTHY OCEANS

The air we breathe, the food we eat and the climate on which our survival depends are all inextricably linked to ocean health. The ocean supports entire communities and industries, sustains hundreds of millions of jobs, helps drive the modern global economy, and is crucial to food security and poverty alleviation in the most vulnerable regions. The ocean economy contributes more than USD 1.5 trillion each year to the global economy<sup>1</sup>. It is also the single largest active carbon and heat sink – absorbing more than 90 percent of excess heat and around 30 percent of anthropogenic CO<sub>2</sub> emissions<sup>2</sup>.

## IMPACTS TO THE OCEAN START UPSTREAM

The health of the ocean and its benefits to society are at risk, largely due to activities taking place upstream, far from its shores. Many factors have led to a cascade of impacts that extend from terrestrial and freshwater ecosystems to coastal zones and the ocean. Coastal communities in the global South are often particularly affected by upstream, and at times transboundary, activities. These factors include the exponential growth of upstream and coastal megacities, and the increasing demand for natural resources due to unsustainable consumption patterns, industrialization, changes to diets and lifestyles, continued urbanization, and population growth.

Most ocean pollution originates from land-based activities and washes into the seas and ocean through rivers and other waterways. This includes huge volumes of solid wastes and plastics that threaten biodiversity, the health of ocean ecosystems, and overwhelm small island developing states (SIDS) with an unending tide of wastes. Untreated municipal wastewater, agricultural runoff, and nutrient dense discharges from industries result in high levels of coastal eutrophication, killing off fish stocks and endangering local livelihoods. Unsustainable freshwater abstraction alters natural hydrology and impacts environmental flows, leading to degraded river and estuary ecosystems. These alterations impact fisheries, increase saltwater intrusion into precious coastal groundwater, and concentrate pollutants. The combination of unmanaged waste streams and altered flow regimes has significant repercussions for those dependent on coastal and marine ecosystems for economic livelihoods and basic sustenance, and ultimately for all life, both on land, in rivers, and the ocean.

Fragmented governance across sectors and between countries aggravates the situation by impeding efforts to address the heavy burdens that land-based and upstream activities are putting on the ocean. Organizations and agencies responsible for the health of the ocean are often not strongly linked to the decision-makers, managers, or regulators of the activities that threaten its well-being. While being recipients of a vast array of ocean services including food, energy, leisure, transport, employment, climate regulation and carbon sequestration, land-based sectors and municipalities often do not consider the potential downstream implications of their activities, nor do they recognize their reliance on the ocean or the vast benefits that the ocean gives them. Our societies depend on healthy oceans, yet many of the beneficiaries are often located far away from the coast and are not incentivized to invest or participate in measures that reduce pressure on coastal and marine ecosystems.

## COORDINATED ACTION FOR LIFE BELOW WATER

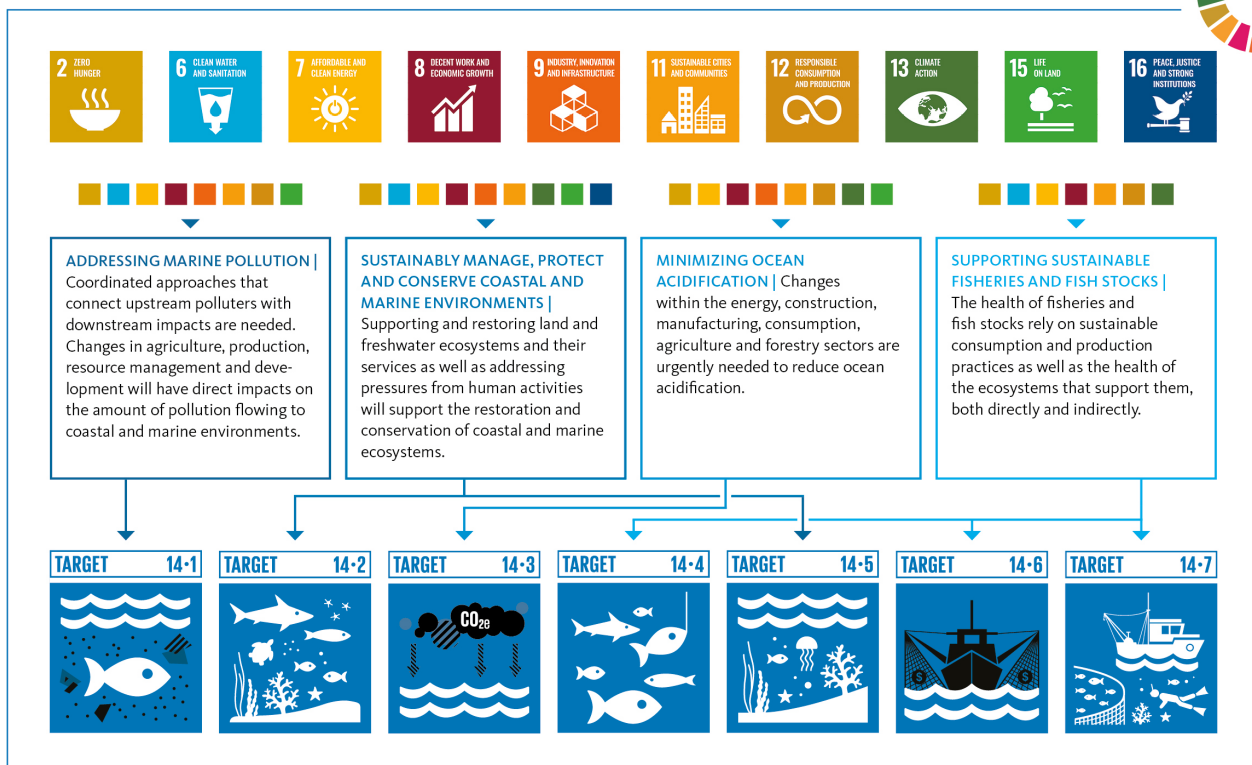
The 2030 Agenda is indivisible in its nature: no SDG can stand on its own. This is especially true for SDG 14 (Life Below Water) as it is both the end recipient of many human activities, as well as an enabler for many of the other SDGs.

The realization of SDG 14 depends largely on how we work to achieve food security (SDG 2), access to water and sanitation (SDG 6), energy for all (SDG 7), sustainable economic growth (SDG 8), sustainable industrialization (SDG 9), sustainable cities (SDG 11), responsible production and consumption (SDG 12), climate action (SDG 13) and healthy terrestrial ecosystems (SDG 15). The interdependency of these goals and their targets demonstrates the need to balance key societal objectives, and ensure that the achievement of one goal does not hinder the advancement of the others. Moreover, the interdependency of these SDGs necessitates a joint approach in governance and management to achieve all goals, and thus they should not be designed and programmed independently for each SDG.

SDG 14 calls for urgent action to preserve all life below water. To achieve this SDG by 2030, we must immediately adopt a coordinated, holistic approach as most of the threats originate far from the ocean. We need to trace impacts all the way back to their source and focus actions and solutions there.

### A COORDINATED AGENDA TO ACHIEVE SDG 14

Achieving SDG 14 calls for a more holistic approach across landscapes, multiple SDGs, and the wider 2030 Agenda.



## WHAT DOES HOLISTIC MANAGEMENT LOOK LIKE?

Localised and fragmented management and governance cannot bring system-wide, long-lasting solutions. We must work collaboratively to effectively tackle threats to the ocean, breaking down divisions between land, coastal, and marine communities, and unite across sectors and administrative borders. The source-to-sea approach identifies the links between land, freshwater, coastal, and marine ecosystems, and stimulates cooperation between upstream and downstream actors as well as coordination across sectors<sup>3,4</sup>, and between countries. Upstream actors need to recognize and value the benefits they receive from a healthy ocean and take responsibility for their contribution to the challenges the ocean faces, whilst downstream actors need to look upstream not only for solutions from their neighbours but also their own contributions to ocean decline. Together we must establish and sustain collaborations between actors from source to sea to improve freshwater and marine ecosystems.

The strength of this approach is its ability to ensure outcomes of mutual benefit from source to sea. It brings together all actors – policymakers, the private sector, scientists, NGOs, local communities, and Indigenous Peoples – to proactively co-create solutions. The source-to-sea approach places a strong value on inclusivity, participation, and equity, including groups of actors traditionally excluded from decision-making. This includes those who are dependent upon ecosystems for their livelihoods and are most vulnerable to their changes. Only through collaboration that crosses the land-freshwater-ocean boundaries, and is founded on local knowledge, can we develop sustainable and lasting solutions with balanced benefits for our land, freshwater, oceans, and all of us.

### PRINCIPLES OF THE SOURCE-TO-SEA APPROACH

**HOLISTIC** | addressing upstream and downstream linkages across issues, stakeholders, desired outcomes, costs and benefits

**COLLABORATIVE** | building upon and enhancing existing institutions, established methods and ongoing processes

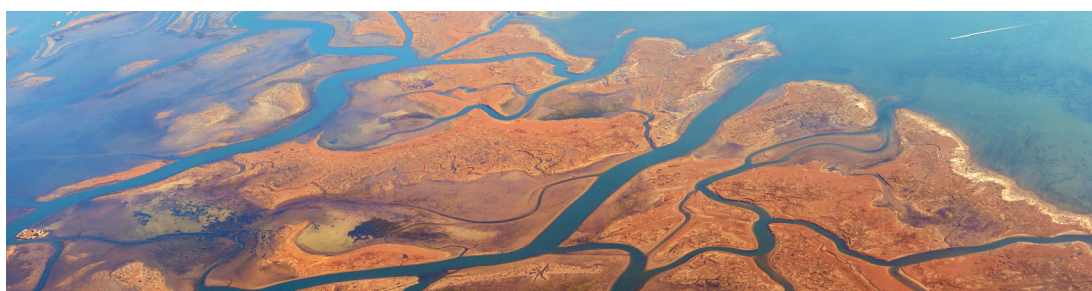
**PRIORITIZING** | targeting and addressing the issues that hold the greatest potential for generating positive impacts for the system as a whole, while minimizing negative impacts

**PARTICIPATORY** | engaging upstream and downstream stakeholders from the start, including marginalized and vulnerable people, and ensuring equitable sharing of benefits

**CONTEXT DEPENDENT** | derived from, and responsive to, the local context

**RESULT ORIENTED** | targeting intermediate outcomes that contribute to overall improved economic, social and environmental status

**ADAPTIVE** | learning-by-doing through pragmatic implementation, monitoring, evaluation and adaptive management and sharing across basins and seas



## CALL TO ACTION – START AT THE SOURCE TO SAVE THE OCEAN

Rather than using the vast potential of the world's oceans as a catalyst to advance the SDGs, many regions are facing unprecedented challenges linked to deteriorating ocean health. This calls for new approaches and strengthened partnerships that engage actors and sectors located upstream of coastal and marine areas. Addressing these challenges cannot wait. Our shared future depends on all levels of government and decision-makers working together to drive meaningful change and uniting policy and action for coordinated management to restore and maintain the health of the ocean.

The consequences of fragmented governance and mismanaged natural resources are now evidently clear, and the source-to-sea approach is one of the most promising tools to solve these complex challenges. Now is the time for decision-makers around the world to come together to create meaningful change through policy reforms, sustainable financing, and by developing frameworks which drive stakeholder collaboration.

The UN Ocean Conference, Convention on Biological Diversity COP 15, UN Climate Change Conference COP 27, UN 2023 Water Conference and ongoing global processes, as well as other upcoming conferences such as World Water Week, IAHR World Congress, and IWRA World Water Congress, present a unique series of opportunities to galvanize commitment and strengthen actions to support ocean health.

Immediate action from local to global scales is required. Governments, industry, businesses, academia, and citizens must work together to:

**CATALYZE** source-to-sea action at global, regional, national, and subnational levels by mainstreaming source-to-sea thinking in the design and implementation of projects, plans, governance frameworks and investments.

**INCENTIVISE** and implement holistic management of terrestrial, freshwater, coastal and marine systems to ensure development prevents biodiversity loss, deterioration of ocean health, ecosystem degradation, and exacerbation of climate change impacts.

**INVEST** in science, education, knowledge sharing, data, and monitoring to better understand the linkages across the source-to-sea continuum and ensure development on land and along rivers safeguards healthy marine and coastal ecosystems and protects livelihoods dependent upon ecosystem services.

**INNOVATE** transformative, replicable and scalable solutions that address source-to-sea challenges while enhancing livelihoods, ensuring equity, harnessing collective wisdom and sustaining ecosystems.

**INCLUDE** all stakeholders in decision-making, ensuring that the voices and concerns of marginalized and vulnerable communities, youth, women, and Indigenous Peoples are heard at all phases of policy making, and benefits are shared equitably.

**ACCELERATE** the transition towards sustainable consumption and a circular economy by developing financial and regulatory tools that stimulate cross-sectoral behaviour change, coordination, and upstream-downstream cooperation in identifying solutions at the source.

To achieve these aims, we must build and reinforce multi-stakeholder partnerships at all levels, to coordinate action and advance knowledge.

1. OECD (2016); The Ocean Economy in 2030. OECD, Paris

2. IPCC, 2019: Summary for Policymakers. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.- O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, M. Nicolai, A. Okem, J. Petzold, B. Rama, N. Weyer (eds.)]. In press.

3. Granit, J., Liss Lymer, B., Olsen, S., Tengberg, A., Nömmann, S., & Clausen, T. J. (2017). A conceptual framework for governing and managing key flows in a source-to-sea continuum. *Water Policy*, 19(4), 673-691.

4. Mathews, R. E., Tengberg, A., Sjödin, J., & Liss-Lymer, B. (2019). Implementing the source-to-sea approach: A guide for practitioners. SIWI, Stockholm.

The **Start at the Source to Save the Ocean** call to action is supported by the following organizations.

**Deltares**



Government of the Netherlands



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厦门大学海洋与海岸带发展研究院  
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For the most up to date list of organizations supporting the call to action please visit: [siwi.org/publications/starting-at-the-source-to-save-the-ocean](http://siwi.org/publications/starting-at-the-source-to-save-the-ocean), where you can also register your organization.

## JOIN THE ACTION PLATFORM FOR SOURCE-TO-SEA MANAGEMENT

The Action Platform for Source-to-Sea Management (S2S Platform) was launched in 2014 as a multi-stakeholder initiative that strengthens partnerships between sectors and through joint action promotes holistic management of land, water, coastal, and marine environments. The S2S Platform expands the understanding of source-to-sea challenges and of the solutions that will lead to sustainable development. It builds commitment so that policies and finance stimulate source-to-sea action on the ground. Membership is open to all stakeholders that are committed to improving coherence and coordination in land, water, coastal and marine management.

The S2S Platform Secretariat is hosted and coordinated by Stockholm International Water Institute. For more information, visit: [siwi.org/source-to-sea-platform](http://siwi.org/source-to-sea-platform).