

COMMENTARY AND CORRESPONDENCE

Global ocean conservation under the magnifying glass

Paolo Guidetti¹  | Roberto Danovaro² ¹Université Côte d'Azur, Nice Cedex 2, Nice, France²Polytechnic University of Marche, Ancona and Stazione Zoologica Anton Dohrn, Naples, Italy**Correspondence**

P. Guidetti, Université Côte d'Azur, CNRS, FRE 3729 ECOMERS, Parc Valrose, 28 avenue Valrose, 06108 Nice Cedex 2, Nice, France.

Email: guidetti@unice.fr

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The oceans cover approximately two-thirds of the surface on Earth. They are crucial for the maintenance of life on Earth, including human life. Oceans generate a significant portion of the goods and services sustaining the wellbeing of our society (e.g. producing c. 40% of the oxygen, sequestering carbon dioxide, mitigating and regulating climate and floods, providing nutrients for ocean production, and securing food resources) (UNESCO, 2017). They are also increasingly important from an economic perspective, not only for the countries that rely on tourism, fishing and other marine resources as key incomes, but also for the development of the global economy based on international trade (UNESCO, 2017). There is an increasing awareness, however, that direct and indirect human pressures and impacts (e.g. deep-sea mining; gas and oil extractions; overexploitation, illegal, unreported and unregulated fishing; destructive fishing; unsustainable aquaculture practices; marine pollution; habitat destruction; bioinvasions; noise; climate change and ocean acidification) are threatening the oceans' life. There is the urgent need, therefore, to reduce the multitude of stresses and impacts that are degrading the oceans (see for example Halpern et al., 2010). The UN Sustainable Development Goal number 14 (SDG14), from this perspective, states that seas and oceans are a priority for the future and represent at the same time one of the main challenges and opportunities for our sustainable development.

The Ocean Conference, held in NYC at the headquarters of UN from June 5th to 9th 2017, was dedicated to the conservation and sustainable use of seas, oceans and marine resources. About 10 000 attendees (including delegates from around 200 Member States and scientists, representatives of ONGs, public institutions, private companies) participated to the conference. The official plenary session was accompanied by more than 200 thematic and side events. All Member States declared their engagement to protect the oceans and to manage in a more sustainable and equitable way the marine

resources in their territorial waters. One of the side events, entitled *G7 Science and Technology Cooperation: the Future of the Ocean*, highlighted the need for developing trans-national cooperation for monitoring, protecting and restoring the oceans beyond national jurisdiction, via the development of marine infrastructures and technologies (e.g. cabled and networked observatories, research vessels, mobile equipment such as autonomous underwater vehicles), a sentiment that was echoed at the IMPAC4 (International Marine Protected Areas Congress) in Chile in September 2017.

At the closing session of the Ocean Conference, the UN Member States adopted a Call to Action (<https://oceanconference.un.org/callforaction>) to implement the SDG14 (<https://sustainabledevelopment.un.org/sdg14>) obligations and initiate the actions needed to restore ocean health on a global scale. The Assembly also reaffirmed the need for strong and ample support to the Paris Agreement. The Fijian President of the UN General Assembly stressed that the oceans and the related multiple human threats are a collective, global issue needing collective commitment, participation and action: 'Human-induced problems have human-devised solutions', he stated, finally recalling the crucial role of marine protected areas and of the stakeholder/societal engagement to achieve full success (Claudet & Guidetti, 2010). The Ocean Conference 2017 has given priority to the oceans in the global political agenda, in relation to climate change, the blue economy, and the principles of sustainability and equity.

The oceans were also at the heart of the attention of the 4th Our Ocean Conference organized by the European Union, in Malta on 5th and 6th October 2017. The conference aims at inspiring and empowering a new generation of leaders, entrepreneurs, scientists and civil society to identify solutions and commit to actions to save, secure, clean and sustainably manage the world's oceans and seas. In the same line and with a global perspective, the Organization for Economic Co-operation and Development (OECD), has organized in Naples (Italy) on 10–11th October 2017 a workshop entitled

The authors contributed equally to the manuscript.

Innovation for a sustainable ocean economy: linking economic potential and marine ecosystem health through innovation. The main topics identified are: (i) innovation to support efficient marine protection through the effective implementation of the maritime spatial planning; (ii) building the industry of marine ecosystem restoration; (iii) decommissioning of marine infrastructures; and (iv) innovation for developing eco-sustainable shipbuilding and marine infrastructures in the perspective of circular economy (i.e. based on the recycling of the materials). These topics represent some of the crucial challenges for an ecologically sustainable 'blue' development.

All of the aforementioned events substantially aim at identifying the actors and the actions capable of reversing the current decline in the health of our seas and oceans, for the sake of human prosperity. Looking at the global ocean policy orientations emerging from the major events organized in 2017, some points appear of paramount importance: (1) all states must work together to better protect and manage the oceans; (2) scientific research is a crucially important diplomatic bridge among states with different political orientations towards the common need of preserving/restoring ocean health; (3) science must be supported by enhanced technological and infrastructural solutions, which can be achieved only through trans-national cooperation; and (4) there is a need for a global monitoring programme including the essential biological and ecological variables at appropriate spatial and temporal scales, within an ecosystem-based strategy enabling the identification of appropriate solutions for properly protecting our seas and oceans (Danovaro et al., 2017; Halpern et al., 2010).

The magnifying glass of UN, EU, G7, OECD, among others, is now on oceans and seas, for preserving their vital role in sustaining biodiversity and our society. Oceans are and will keep being a hot topic of discussion for defining their future, along with that of human society and of the entire planet.

ORCID

Paolo Guidetti  <http://orcid.org/0000-0002-7983-8775>

Roberto Danovaro  <http://orcid.org/0000-0002-9025-9395>

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