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> Plastic Catch • Susan Schultz porcelain and wood sculpture



A CASE FOR INTEGRATING THE ARTS AND HUMANITIES INTO OCEAN LITERACY AND STEWARDSHIP

Humanizing the seas:

A case for integrating the arts and humanities into ocean literacy and stewardship

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In 1972, Apollo 17 transmitted the first image of Earth taken from space. The image was notable for the dominant blueness of the photo provided by the ocean, leading to Earth's new moniker, the "blue marble." Covering 70% of its surface, the ocean is the largest feature on Earth, providing a home to 80% of all life, generating half of the oxygen in our atmosphere, absorbing at least a quarter of all carbon dioxide emissions, and acting as a sink for 90% of the heat generated from those emissions.¹ Simply stated, the Earth's marine environment is critical in supporting the diverse life forms that inhabit this blue planet by providing ecosystem services and resources essential to those organisms, both aquatic and terrestrial, including humans. However, this expansive feature so critical to our very existence remains largely unexplored and incompletely fathomed. It is also now threatened by humankind's heavy footprint, a suite of anthropogenic activities and impacts that include the extraction of fossil fuels, minerals, living marine resources, and sediments; the introduction of a diverse array of pollutants from petroleum products, nuclear and organic wastes, nutrients, toxins, and even sound, light, heat, and biological pollutants comprising alien and often invasive species; the alteration and destruction of benthic and coastal habitats; and the cascade of changes caused by human emissions of greenhouse gases into the atmosphere falling under the broad umbrella of climate change.

On December 5, 2017, the United Nations (UN) declared the period 2021 to 2030 to be the Decade of Ocean Science for Sustainable Development to create the science needed to achieve the UN's Agenda 2030 ocean-related goals, particularly those identified under Sustainable Development Goal (SDG) 14, aimed broadly to "conserve and sustainably use the oceans, seas and marine resources."² A UN-sponsored ocean conference was slated to be held in June 2020, but was postponed due to the COVID-19 pandemic. Spearheaded by UNESCO's Intergovernmental Oceanographic Commission (IOC), the decade is being promoted to "develop the science we need for the ocean we want."3

Ocean literacy is "the understanding of our influence on the ocean and the ocean's influence on us" The marine environment is "critical to supporting the diverse life forms that inhabit this blue planet"

but also "threatened by humankind's heavy footprint"



As part of this decade-long effort and to celebrate World Ocean Day, the IOC organized the first Virtual Ocean Literacy Summit on June 15, 2020. According to the UN, 1,600 individuals from 119 countries participated in the virtual event. According to the summit's website, the summit presentations and discussions centered on "answering questions such as how Ocean Literacy can help transform ocean knowledge into action; which Ocean Literacy strategies are needed to contribute to the achievement of Sustainable Development Goal 14; how to bring together different backgrounds, actors and perspectives to use Ocean Literacy as a vehicle to inspire action; and how to create learning opportunities through worldwide collaboration and partnerships." The mission of UNESCO's Ocean Literacy Portal is to disseminate ocean science. It includes resources for students, educators, scientists, policymakers and the media, aiming to be a "one-stop shop for ocean literacy worldwide," and defining ocean literacy as "the understanding of our influence on the ocean and the ocean's influence on us."4 The IOC plans to release an "Ocean Literacy Strategic Plan to support the UN Decade of Ocean Science (2021–2030)" in January 2021.

The ocean literacy concept, however, has antecedents that go back two decades to efforts that emerged in the United States among an ad hoc group of scientists and education professionals who identified a gap in ocean-related knowledge in K–12 education. These individuals, affiliated with a diversity of government, K–12, academic, and research institutions, worked to develop a framework and set of seven principles essential to an understanding of ocean science. Much of the initial work on ocean literacy has focused on science, technology, engineering, and mathematics (STEM)-related education and entailed the development of a set of brochures and teaching resources.⁵ The essential principles of ocean literacy are: (1) the earth has one big ocean with many features; (2) the ocean and life in the ocean shape the features of the earth; (3) the ocean is a major influence on weather and climate; (4) the ocean makes the earth habitable; (5) the ocean supports a great diversity of life and ecosystems; (6) the ocean and humans are inextricably interconnected; and, (7) the ocean is largely unexplored. According to UNESCO, the goals of ocean literacy have enlarged to encompass action: providing citizens and stakeholders with the knowledge and tools to act to enhance ocean sustainability.

The genesis of this thematic series of articles originated when historian and University of Connecticut professor Helen Rozwadowski encountered the concept of ocean literacy in a large poster that stands beside the entrance to the offices of Connecticut Sea Grant (CTSG) on the Avery Point campus. One of my colleagues, Diana Payne, has been integrally involved with the development of ocean literacy through her CTSG work and in association with the National Marine Educators Association, in which she has held leadership roles. Through this introduction to ocean literacy, augmented by social media postings from colleagues, Rozwadowski became interested in the concept and presented a paper on it at a 2019 conference in Norway.⁶

Seeking to assemble a panel of colleagues for the 2019 meeting of the National Council on Public History, held in Hartford, Connecticut,



Cultures around the world have "humanized" the seas in very different ways since time immemorial. Left: A close-up of a coin from Roman Britain, 2nd century AD, with a depiction of Oceanus, a Titan of Greek mythology who also personified the river they believed encircled the earth (reproduced by permission of National Museum of Wales under a Creative Archive License). Center: Traditional fishing boats, Mbour, Senegal (Bart van Poll / Wikimedia Commons); Right: Sandals made for Japanese pearl divers, ca. 1930s, National Museum of Ethnology, Osaka (Yanajin33 / Wikimedia Commons).

she reached out to colleagues at Mystic Seaport, the Williams Mystic program, and the University of Connecticut Maritime Studies (MAST) program, which she helped to create and led for over a decade. Five of us presented papers at a roundtable entitled "Public History and the Ocean Environment." The theme of the conference was "repair work," and the presentations explored how the humanities, and more specifically the "blue humanities," can contribute to the work of remaking or repairing the ocean, in light of the fact that these disciplinary perspectives and practices, along with the arts, have been largely absent from the discussions, documents, and efforts laid out by the formulators of Ocean Literacy. Each of us sought to explain how the humanities can enrich, complement, or provide more nuanced elaborations of the UN's mostly science-based efforts at ocean repair and literacy.

The contributors to this thematic section bring research, programming, and policy experience from public and private institutions to explore the role of the humanities in enhancing public understanding of the ocean as a truly human environment. Helen M. Rozwadowski's article provides an overview of how the humanities, especially history, can inform ocean literacy and why it is important that the public humanities be involved. Paul O'Pecko, Vice President for Research Collections and Director of the G.W Blunt White Library at Mystic Seaport Museum, reports on how whaling logbooks and other first-person accounts can yield information useful to contemporary scientists regarding the changing environment over centuries, including studies of ice floes, water temperatures, storm patterns, and more. As both a MAST professor and research coordinator at Connecticut Sea Grant, I examine CTSG initiatives to broaden ocean literacy beyond natural sciences and policy as well as efforts to integrate arts and humanities into marine science and policy pedagogy. Colleen Franks, a recent University of Connecticut MAST graduate who has now segued to work for MAST as a research specialist developing the Blue Heritage Trail, focuses her article on the creation and implementation of this trail, a public outreach project that seeks to create, curate, integrate, and share information related to Connecticut's marine environments and maritime heritage. Finally, Elysa Engelman, Director of Exhibitions at Mystic Seaport Museum, focuses her article on the future of this institution and examines how public history and interpretation will have to adapt to survive in a world of pandemics, rising seas, and changing climate. In this case, the emergence of a global pandemic has moved short-term survival needs ahead of the longer-term need to adapt to a changing climate, putting adaptation planning efforts on hold. In a global experiment that will play out in the coming decades, the strategies that convey resilience in the face of dramatic change and allow organizations such as Mystic Seaport to continue to prosper while pursuing their missions will become apparent.

As we move toward a dynamic and unknown future, the combined scholarship in these ar-

The challenge is

"how the humanities, and more specifically the 'blue humanities,' can contribute to the work of remaking or repairing the ocean"

ticles demonstrates the wisdom of marinating the arts and humanities and humanizing the seas, making salient and urgent arguments for the need to integrate these disciplinary perspectives and practices into ocean literacy and stewardship.

Endnotes

- 1. United Nations, 2020 UN Ocean Conference; https://www.un.org/en/conferences/ocean2020/ about (accessed July 20, 20200.
- 2. United Nations, Sustainable Development Goals Knowledge Platform; https://sustainabledevelopment.un.org/post2015/transformingourworld (accessed July 14, 2020).
- United Nations, "The Science We Need for the Ocean We Want," IOC/BRO/2018/7 REV (2018), UNESCO, IOC, UN Decade of the Ocean, https://www.oceandecade.org/assets/ The_Science_We_Need_For_The_Ocean_We_ Want.pdf.

- 4. See the UNESCO press release on the new Ocean Literacy Portal; http://www.unesco.org/ new/en/media-services/single-view/news/ioc_ unesco_launches_new_one_stop_shop_ocean_ literacy_portal/, or the portal itself: https:// oceanliteracy.unesco.org/.
- 5. UNESCO, Ocean Literacy for All: A Toolkit, IOC Manuals and Guides 80, (2017); https:// unesdoc.unesco.org/ark:/48223/pf0000260721 (accessed July 20, 2020).
- 6. Rozwadowski presented her paper at a workshop that was part of an international, multiyear project called 3ROcean Project: "Ocean Literacy in the 3ROcean Framework," Ocean Transformations: Representations, Resources, and Regulations, 3rd conference of the project "The High Seas and the Deep Oceans: Representations, Resources and Regulatory Governance (3ROcean Project)," sponsored by the Resource Council of Norway, Frøya, Norway, September 16–18, 2019.