

The Future of Global Ocean Management: New Findings from a Five-Year Trans-disciplinary Research under NEOPS

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The results of a five-year trans-disciplinary research by NEOPS (the New Ocean Paradigm on its Biogeochemistry, Ecosystem, and Sustainable Use), which covers oceanography, fishery science, environmental economics, and marine policy, will be presented. Particular emphasis will be dedicated to the socio-economic and policy aspects of global ocean management by introducing three research efforts. (1) Drawing on the results of three online surveys, research will be presented on people's utility of ocean ecosystem services and how this influences behavioural intentions for ocean conservation and attitudes toward ocean ecosystem services, as well as relevant factors that related to people's willingness to pay for ocean ecosystem services. Data from the 2013 survey conducted in Japan suggests that respondents perceive three distinct categories of ocean ecosystem services, which the authors named "essential benefits", "indirect benefits", and "cultural benefits". Among these, "cultural benefits" were found to have the greatest influence on behavioural intentions for ocean conservation. A 2014 survey conducted in the USA suggests that readiness to act to conserve ocean resources is highly dependent on the type of action involved. Irrespective of the type of marine ecosystem service involved, there was a very high aversion to taxation, while supporting green businesses or buying green products to support ocean conservation were less contentious. Moreover, no link was found between political persuasions and behavioural intentions or perceptions of marine ecosystem services. The most recent survey conducted in 2016 in Japan indicates that respondents unwilling to pay for ocean ecosystem services are characterized as extremely low spirit of public engagement, weak connections with other people, and a weak perception of intangible benefits. (2) NEOPS researchers have closely followed international decision-making processes related to new ocean governance measures, including the Conference of the Parties to the CBD (Convention on Biological Diversity) and the BBNJ Preparatory Committee (Preparatory Committee established by UN General Assembly resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction). Although cultural ecosystem services have not been a major issue within these forums, the building of consensus on the need, for instance, for marine protected areas or equitable benefit-sharing mechanisms, have been crucially dependent on negotiations that take into account the diverse range of stakeholders involved as well as the different socio-cultural contexts that have shaped their positions. (3) Independent analyses by authors have also found that a number of key underlying criteria shape the decision-making landscape and heavily influence the outcomes of ocean governance negotiations. These include the number of countries involved and their respective dominance with regard to the issue under negotiation (e.g., existence of hegemons), the existence of adequate monitoring and enforcement mechanisms as well as similar levels of capacity to effectively use these mechanisms (to deter destabilizing 'balloon effects'), and other factors. Lastly, building on these research outcomes over the past five years, the future outlook for the international regime on ocean management and the role of science will be discussed.

Keywords: NEOPS, BBNJ, governance, ecosystem, biological diversity, cultural services