

Conference Abstracts & Biographies

5D – Blue Economy I

Chair: Simone Martino, The Scottish Association for Marine Science

Networking the Blue Economy in Seychelles: Pioneers, Resistance, and the Power of Influence

Marleen Simone Schutter, Lancaster University, UK

Abstract:

Narratives within neoliberal discourse around environmental governance do not exist in a vacuum. They are continually being constructed, negotiated, and maintained by a network of human and non-human actors, who, through their own agency and power, can influence the outcome 'on the ground'. This paper provides an empirical contribution with data from the Seychelles, where a Blue Economy narrative together with a debt-for-nature swap has been shaping environmental governance in practice – but practice in turn is also influencing the concrete application of these ideas. Seychelles has a unique position in Africa, due to its remote location in the Indian Ocean, its political history, and its pioneering role in promoting the Blue Economy, including Blue Bonds. Using a social network approach enriched with non-human actors, this paper a) investigates the actors that are involved in Blue Economy-influenced environmental policy making in Seychelles; b) how these actors are interlinked regarding information, resources, and direction; c) what the perceived influence is of each of the actors; and d) what this means for the way in which Blue Economy in Seychelles is constructed and brought into practice by environmental and research organisations. We find that a select number of human and non-human actors 'both from in- and outside Seychelles' is driving the narrative. These actors are performing as the agents of change, and we find that their narrative about 'turning the ocean into a development space' is not necessarily widely shared amongst stakeholders, and indeed often met with resistance within Seychelles. However, these select actors are important in determining how the Blue Economy manifests itself in policy and practice. The findings presented here are the foundation for future research in Seychelles, that will focus on a more qualitative approach focusing on the rise of the Blue Economy in the country, as well as the extent to which this is perceived to have influenced, and is being influenced by, a change in the perception of ecosystem service values.

Keywords: Blue Economy; network analysis; marine policy; values; Q methodology

Biography:

I am a PhD student at the Lancaster Environment Centre. I am interested in how the Ecosystem Services concept manifests itself in different domains - from the international research domain through to the national policy domain and the resource user level. I am interested in how the concept can shape the values that people hold for human-nature relationships. In my research, I focus on the Blue Economy in Seychelles as a manifestation of ecosystem services-inspired thinking. I study the different perspectives on the Blue Economy and how this translates into preferences for ecosystem services on the ground. I am interested in the policy process of constructing values for nature, and how ecosystem services and the Blue Economy are influencing these values. Before coming to Lancaster, I completed an Msc. in Environment and Resource Management at the VU University in Amsterdam and a Bsc. in Financial Economics at the Radboud University in Nijmegen, both in the Netherlands. For my Master's dissertation I assessed marine ecosystem services in the Cayman Islands, where I also worked as a kayaking guide in ecotourism.

An ecological-economic modelling approach to assess changes in preferences and values of wildlife recreation

Simone Martino, The Scottish Association for Marine Science, UK

Abstract:

In complex ecological-economic systems, the management of marine commercial species may affect economic values of other uses of the sea such as wildlife watching, reducing its benefits for the watchers. The aim of this presentation is to show how fishing management can be tailored to create synergies with the wildlife-watching industry. We propose a methodology that integrates ecological information from a food web model, biological distribution of marine wildlife, and evidence of recreationists' (watchers') preferences for some marine species (seabirds, seals, porpoises, dolphins and whales). The ecological model simulates the fisheries of the West of Scotland and provides changes in biomass of wildlife species under four different UK National Ecosystem Assessment (NEA) story lines; generalized least squares models are developed to assess how changes of target species densities will impact the probability of sighting these species; the economic model, finally, describes recreationists' preferences under hypothetical scenarios of wildlife protection. These three models are integrated to show how wildlife watchers' preferences and their monetary benefits change over different fishing management scenarios.

Keywords: Ecological models, Ecopath/Ecosim, Choice experiment, marine wildlife watching, UK NEA

Authors:

Jasper Kenter, Scottish Association for Marine Science Oban and University of York, Department of Environment

Natalia Serpetti, Scottish Association for Marine Science, Oban

James Waggitt, School of Ocean Sciences, Bangor University, Isle of Anglesey, University of Bangor;

Peter Evans, School of Ocean Sciences, Isle of Anglesey, University of Bangor

Dive Fishing and Sustainability

Hannah Bassett, University of Washington, USA

Abstract:

Dive fishing allows for selective and efficient harvest of high-value benthic species, making the practice a strong candidate for sustainable resource use. However, high levels of diver morbidity and mortality as well as overexploitation of resources have been documented in several fisheries, suggesting that unsustainable outcomes often occur. The dive fishing practice has never been comprehensively reviewed or described, therefore management best practices have not been identified. To begin to fill the current gap in knowledge, we performed a systematic review of peer-reviewed and grey literature to both characterize dive fishing and identify qualities that may contribute to its level of sustainability.

In a review of 132 sources, we characterized 107 individual fisheries by geographic location, dive technology employed, species targeted, number of divers, fishery type (e.g. small or large-scale, subsistence or industrial), and rates of diver morbidity and mortality. We found that dive fisheries operate predominantly as small-scale, industrial fisheries that target a wide range of species, particularly benthic invertebrates. Dive fisheries exist on every inhabited continent and,

where recorded, generally exhibit high levels of morbidity and mortality. Several dive fisheries known by the authors were not found in the literature, highlighting incomplete documentation of the practice.

We identified four characteristics of dive fisheries that contribute to the practice's level of sustainability: increased bottom time, increased depth, direct contact of the fisher with the ocean and its resources, and increased accessibility and autonomy. We find that these characteristics play a role in improved sustainability in some fisheries, but reduced sustainability in others. Based on our analysis, we propose that dive fishing is predisposed to occupy either extreme end of the sustainability spectrum such that it presents great risk or great reward. While this hypothesis requires further examination, it could have important implications for future management approaches.

Coral reef cruises - an essay on operational inadequacies

Muffy Seiderer, UK Marine Survey Consultant

Abstract:

Coral reef tourism is a huge growth industry in areas of importance in terms of ecosystem function and biodiversity. To generalise, the legislative and enforcement protocols to guarantee the endurance of these ecosystems lags far behind, particularly in areas of the world that are recent entries into the tourism industry. In relation to legislation "to protect coral reefs through recovery of monetary damages resulting from vessel groundings and anchoring-related injuries, destructive fishing practices, and non-permitted taking of threatened species", two recent anchoring/grounding incidents have highlighted the extent of potential environmental liabilities. The cruise sector is one in which eco-destinations are specifically made available for nature tourism in a sustainable way, but the cruise ship industry, together with other forms of marine leisure & tourism, are in danger of destroying the very resource that they are marketing. This encompasses not only damage to the biodiversity and ecosystem function of coral reefs but also the potential for the sector being excluded from protected areas. This is a growth sector in need of mitigation in the form of the development, implementation and enforcement of protocols to provide environmental safeguards. The consequences of ongoing operational inadequacies and/or grounding or anchoring incidents are substantial and the reputational damage to the cruise sector is high. Top of the list of operational inadequacies is the widespread procedure of maintaining geostationary position outside of the coral reef, resulting in a damaging combination of elevated water temperature, reef smothering, elevated nutrient levels, introduction of non-native species, elevated noise levels and reef platform erosion. In consideration of the high level of environmental awareness of eco-destination clients, the sector must add value by ensuring that they have a positive impact on society, the environment and the economy.

Keywords: coral-reef, eco-tourism, biodiversity, mitigation, protocols

Biography:

Muffy Seiderer has had a lifelong interest in the assessment of the effects of disturbance on the marine environment. Much of her work, during a 25 year tenure at a UK marine survey consultancy, revolved around the design and implementation of surveys to provide robust data during all phases of major marine infrastructure projects. Her interest remains in the design of programmes to assess the spatial and temporal effects of disturbance on the seabed, and the extent to which the disturbed

communities are likely to recover. A natural progression has led onto recent work on the appraisal of insurance liabilities to assist in the resolution of environmental damages claims. Her work in this sector has resulted in a guidance document outlining potential cruise liner liabilities in relation to coral reefs.