

# Oceans Past: History Meets Marine Science

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The chapters that comprise this volume were originally presented as papers to an international conference – Oceans Past: Multidisciplinary Perspectives on the History of Marine Animal Populations – held in Kolding, Denmark, in October 2005. This meeting was convened by the History of Marine Animal Populations (HMAP) project, which forms the historical component of a global network of researchers engaged in the Census of Marine Life (CoML), a ten-year initiative designed to assess and explain the diversity, distribution and abundance of marine life in the oceans – past, present and future (see the Foreword). The principal aim of the conference was to bring together researchers from the natural sciences and the humanities to discuss how and why marine life in the world's oceans has changed over time, and the role that humans have played in that dynamic process. Such an ambitious remit permitted those engaged in HMAP to take stock of the headway their project had made since its launch in 2001, as well as sharing their findings with the scientific community at large.

Ten of the 75 papers delivered to the conference have been revised for presentation in the pages that follow (a further selection has been published in MacKenzie and Ojaveer, 2007). They reflect the breadth and depth of the HMAP project in various ways. In personnel terms, there are contributions from researchers based in Russia, Canada, Australia, Denmark and the UK, although a clear majority of the authors hails from the US. Their disciplinary mix is more pronounced, as befits a conference that attracted archaeologists, oceanographers, biologists, ecologists, historians and social scientists to debate the character and significance of the long-term interaction of human societies and the marine environment. It is notable, moreover, that in a work which examines the past to shed light on the present, only a few of the authors and editors are historians by profession.

In temporal terms, the contributions to this volume focus on the 19th and 20th centuries. Their topical scope, however, is much broader, with coverage of species ranging – as the order of contents indicates – from common periwinkle snails to sponges, crustaceans, wildfowl, alewives, cod, whales and human scientists and policy-makers. The spatial parameter is extensive, too, for as well as embracing the open oceans inhabited by whales and whalers, the chapters consider the inshore waters and continental shelves populated by a myriad of marine animals, together with the conference halls where human politicians, administrators and stakeholders devise environmental management regimes.

Amid these different spectra, a singular message emerges from this volume: that knowledge and understanding of oceans past are critical to managing marine resources in the present and in the future. This is not to suggest that history alone can explain the current status of the seas and oceans. Rather, it should be taken to mean that reducing the constraints on knowledge imposed by the ‘lost past’ is essential to a holistic understanding of the complex issues inherent to the interaction of human societies and the marine environment (see the Foreword and Afterword). Retrieving and analysing fragments of the past instils a dynamic quality into the equilibrium-based theories that have traditionally marked the approach of marine scientists (Holm et al, 2001, pp. xiii–xix). This can be achieved by measuring change over time, either in quantitative terms through the calculation of numbers of fish, fishers and species in particular localities at specific points in time, or in a qualitative sense through the memories and memorials of those who observed ‘things as they were then’. Measurements and memories, in turn, facilitate analysis of causality and assessments of significance; history, in other words, can help answer two questions – why? so what? – that are often beyond the reach of the natural sciences.

Underpinning the contribution of history to this holistic understanding is evidence of the past. This is invariably and exceptionally partial: partial in so far as it is a remnant of the information that once existed, and partial in that it reflects the perspective, or bias, of its originator. To make a meaningful contribution, history therefore has to submit its exceptionally partial data to a rigorous process of validation in order to ascertain the extent, meaning and shortcomings of the information. This entails undertaking a provenance of the primary source material designed to establish why it was generated, by whom, by what methods, and how and why it was preserved. Corroboration is also part of this process, for if the provenance tests positively against information derived from another source, then confidence in the reliability of the data is enhanced. Assessing the deployment of similar data by previous researchers is a further corroborative device that can be used to gauge the accuracy of the material.

Armed with evidence validated in this way, history has the capacity to address issues that cross disciplinary boundaries. In the present study, history meets marine science and thereby adds significantly to knowledge of the marine environment by locating, validating and applying new evidence pertaining to fish stocks, fishing

effort and/or the relationship between these two variables. In this respect, value is added by pushing back in time the frontiers of what is known. History can also operate ‘laterally’ by generating knowledge of particular cases that confirm, refute or modify the findings of existing case studies. More importantly, perhaps, history possesses an interpretative quality that enhances understanding of the causes and ramifications of environmental change. This contribution assumes one of three guises. The first is context, an understanding of the setting in which an event or activity takes place, and of the place of that event or activity in that setting. Second, an empathy with how people live(d) in different temporal and geographical locations is a form of understanding that is vital to historical scholarship. Context and empathy are integral to the third guise, for history, *inter alia*, is a social science that seeks to understand why individuals and societies decided – or were compelled by anthropogenic factors and/or natural forces – to behave as they did at particular points in time.

While evidence is critical to history, this volume offers evidence of the significance of history to knowledge and a holistic understanding of the patterns and processes of change in the marine environment. It demonstrates, for instance, the value of validated primary information. All of the authors base their analyses on data gleaned from primary sources of various provenance. Among those utilized are archaeological finds, newspaper reports, business advertisements, municipal archives, fishing logbooks, abstracts of whaling logbooks, trade journals, personal records and state departmental memoranda. While these sources have been assessed by each respective author, an appraisal of the quality of the evidence yielded is a prominent theme in a number of contributions. Stefan Claesson, for example, discusses the potential of the extraordinary detail provided in the logbooks submitted by New England fishermen during the 1850s. In a similar vein, Julia Lajus assesses the archival, as well as the intellectual, legacies of Karl Ernst von Baer, while Tim D. Smith, Elizabeth A. Josephson, John L. Bannister and their colleagues test the veracity of the evidence derived from logbooks by Maury, Townsend and other 19th- and 20th-century researchers.

Analysis of these various source materials offers numerous insights into the management of marine resources. Glenn A. Jones shows that the retail price of food can be tracked back to the 1850s by processing information contained in American restaurant menus – that is, he provides evidence that predates by a century or so the first equivalent ‘official’ price data. Likewise, Stefan Claesson describes how the raw data contained in contemporary logbooks have been utilized to estimate the stock of cod that inhabited the Scotian Shelf during the 1850s, a baseline that facilitates comparison with stock assessments undertaken in the same area in the early 21st century (Rosenberg et al, 2005). The breadth, as well as the temporal reach, of what is known is also improved in this volume. April M. H. Blakeslee’s study of the spread of the common periwinkle snail in northeastern North America provides further evidence of the role of human agents in the invasion of marine ecosystems by species from distant habitats. Loren McClenachan’s investigation into sponge

fishing in Florida's inshore waters is similarly instructive in its revelation that human harvesters not only depleted the sponge banks, but also created conditions that fostered the spread of the disease which ultimately proved fatal to this once-rich marine resource.

Understanding of the rationale of past marine resource utilization is enhanced by this volume. Julia Lajus's chapter implies that Karl Ernst von Baer, in extolling the virtues of history as an explanatory tool, was very much a 'fish out of water' in the context of the scientific community of the mid 19th century. Context is the key theme of Carmel Finley's contribution, for it was the geo-political objectives of the US during the 1950s that demanded the implementation of maximum sustained yield; in essence, the exigencies of the Cold War fashioned a policy that had a minimal scientific base, but a major and largely negative impact on global fish stocks. Matthew McKenzie also considers the development of world systems in his examination of the alewife runs of New England. Against this background, he narrows his focus to empathize with the people of the Cape Cod settlements who had long appreciated the importance of stocks of river herring to their way of living before the 1860s. In improving our understanding of why this communal interest changed, he explains how, over a period of three decades, this species had all but disappeared from the rivers that coursed through these growing townships.

Societal, communal and individual behaviour is a theme that is central to history. The decisions of states, institutions and people to fish particular species more or less intensively have long-term impacts on marine animal populations and the environments that they inhabit. In turn, this influences the welfare of societies, communities and individuals, as well as the choices available to future generations. Such a dynamic, interactive relationship imbues this volume; indeed, it emerges whenever history meets marine science. But it is brought into sharp relief by Glenn A. Jones's study of seafood consumption patterns in the US since circa 1850. As demand for a naturally occurring commodity increased, so production intensified and the supply of that foodstuff became scarcer. As a consequence, the price increased consistently and dramatically, and consumption fell. Whereas it was not until late in this cycle that the harvesting of marine animals was restricted, no limit – other than that arising from the 'discipline' of market forces – was imposed on human consumption.

This is merely one of many insights from oceans past that historians, scientists and those charged with managing ocean resources will find in this volume.

## REFERENCES

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