## Northern Ireland STATE OF THE SEAS REPORT











Department of Agriculture and Rural Development www.dardni.gov.uk



Department of the Environment www.doeni.gov.uk









### Northern Ireland State of the Seas Report

edited by Professor C E Gibson

Lighthouse on Rathlin Island Co. Antrim

# Northern Ireland **STATE OF THE SEAS**

#### Contents

	Ministerial Forewords	4
	Executive Summary	6
1	Introduction	7
2	Marine Biodiversity	15
3	Invasive Alien Species	27
4	Fisheries and Aquaculture	34
5	Foodwebs	45
6	Eutrophication	50
7	Seabed Integrity	55
8	Hydrographical Conditions	64
9	Contaminants	70
10	Contaminants in Biota	77
11	Litter	83
12	Energy and Underwater Noise	87
13	Maritime Archaeology	90
14	Bathing Waters	98
15	Ports and Harbours	102
16	Discussions and Conclusions	105
	Appendices	110

#### **DOE Minister's Foreword**

This is a key time in managing the marine environment. My Department is introducing new legislative controls to bring forward marine planning for the first time. Existing licensing systems are being updated and there has also been the introduction of a new European Marine Strategy Framework Directive.

In 2010, my Department led a consultation on the Northern Ireland Marine Bill setting out policy proposals for the future management of the marine environment around Northern Ireland. To inform the development of the Northern Ireland Marine Programme, an Interdepartmental Marine Co-ordination Group committed to producing a Northern Ireland State of the Seas report. The production of this scientific report was led by the Northern Ireland Environment Agency (NIEA) and the Agri-Food and Biosciences Institute (AFBI), with co-operation and input from a wide range of agencies and organisations with appropriate data and expertise.

In July 2010, the UK Government published the report Charting Progress 2, The State of the UK Seas. This report incorporated data and some assessment of the waters around Northern Ireland, but only as part of the the larger sea areas of the Irish Sea (Ballycastle to Carlingford), and a region known as The Minches and Western Scotland (Ballycastle to Lough Foyle). As many aspects of marine management are devolved, the Interdepartmental Marine Co-ordination Group considered it was important to produce a specific report focused on Northern Ireland in order to pick out the main messages for the management of our seas.

This is the first time a report of this nature has been produced in Northern Ireland and



has involved close co-operation primarily between my Department and the Department of Agriculture and Rural Development, but also with others bodies with a marine management role.

The report is essential in setting out an assessment of the state of knowledge to date, and also to highlight those areas where further work might be required to meet new legislative requirements.

At the heart of all this is recognition of the importance of managing all aspects of the marine environment and its fisheries in a complementary way, to realise our shared vision for 'clean, healthy, safe, productive and biologically diverse oceans and seas.' I would like to thank all the organisations that have contributed to this report, which marks the beginning of a new era of even closer co-operation in managing our seas.

#### **DARD Minister's Foreword**

As Minister responsible for fisheries, I am very aware of the challenges involved in managing marine resources, not least because the sustainability of fish stocks depends critically on clean, healthy, productive and biologically diverse seas.

There are many pressures on our marine resources and, as these increase, it is important that management strategies must evolve to take account of this. The appropriate legislative controls must be in place, as well as effective licensing systems and it is important that local, national and European legislation should help us achieve our common objectives.

I particularly welcome the process of reforming the Common Fisheries Policy, which is expected to lead by 2012 to a greater regionalisation in fisheries management and will contribute to developing more appropriate management systems.

I am clear that we also need a strong science evidence base to support these developments, to inform our understanding of the state of our seas and to assess the impacts that the increasing demands on marine resources can have. This includes acquiring a greater understanding of the processes that underpin sustainability of ecosystems. In particular, the Marine Framework Strategy Directive requires that we manage the whole marine environment through adopting ecosystem based approaches. This increased emphasis on managing with regard to ecosystem structure and function also provides an opportunity to better understand and plan for impacts of climate change on marine ecosystems.



I am therefore particularly pleased to support the production of this report. It provides for the first time an assessment of the state of our seas and identifies areas where further knowledge is required. The report will be of great value to Departments and other bodies with marine responsibilities and interests and I hope that it will foster even greater cooperation in managing our marine resources. 6

#### **Executive Summary**

This Northern Ireland State of the Seas report has been produced primarily by Northern Ireland Environment Agency (NIEA) and the Agri-Food and Biosciences Institute (AFBI).

Other contributors include the Department of Agriculture and Rural Development (DARD), the Department of Regional Development (DRD), the Loughs Agency, the Food Standards Agency (FSA) and the University of Ulster. This is the first time that a comprehensive report on the state of the seas around Northern Ireland has been published.

The report follows on from a UK-wide report published in 2010 entitled 'Charting Progress 2 – The State of UK Seas'. Both NIEA and AFBI were fully engaged in the production of Charting Progress 2. The Northern Ireland State of the Seas report complements Charting Progress 2 and highlights the issues specific to Northern Ireland.

This is a key time in the management of our marine environment with the introduction of 3 new pieces of legislation:

- EC Marine Strategy Framework Directive, 2008;
- UK Marine and Coastal Access Act, 2009 and
- the proposed Northern Ireland Marine Bill, which will be introduced to the Northern Ireland Assembly in 2011.

The report is largely structured around the new requirements of the Marine Strategy Framework Directive, although other aspects of the marine environment are also considered.

Our marine environment is a key asset in terms of biodiversity, recreation, tourism and the transporting of goods and services from our ports. It also supports industries such as aquaculture and fishing. There is potential for the growth of marine renewables in the future. It is clear that there is already competition for space in the marine environment and this is likely to grow in the future. There are many success stories in the management of our marine environment. These include the clean-up of our sea loughs and bathing waters by improvements to sewage and effluent treatment.

Recovery is measurable in some of our fish stocks. Biodiversity in our seas contributes to over half the overall biodiversity in Northern Ireland. AFBI, NIEA, DARD, Loughs Agency and others co-operate well in the monitoring of our marine environment.

However, there are many pressures and challenges ahead in improving how we manage our marine area. The Marine Strategy Framework Directive requires that we manage the whole marine environment through a total ecosystem approach. We will be required to improve our understanding of food webs and the linkages between fisheries and the environment. We will also need to improve our knowledge of how the physical environment and man-made structures can alter ecosystems.

Many of the datasets identified in the report are crucial for the assessment of long term changes that may occur due to climate change. It is clear that a spatial planning process is required in order to manage our marine environment both holistically and sustainably. This will be introduced in 2014 under the Northern Ireland Marine Bill.

The production of this report is a major milestone both in terms of initiating implementation of the new legislation and in strengthening relationships between Agencies and Departments. All Northern Ireland Departments and Agencies with marine responsibilities will continue to build on this co-operation in the monitoring and management of our marine environment.