

# 2010 Annual Statement

Creating sustainable solutions for the marine environment



## Foreword

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ABPmer celebrated 60 years of business in 2010 which was marked with a gathering of past and present members of staff.

The year also saw our operations recertified to the new ISO 9001:2008 standard and against a much increased competitive and challenging market, we reached our ambitious sales targets.

Our largest market remains the **energy sector**. We are now engaged with the majority of Round 3 offshore wind zones having won further contracts over the summer and are also working on the Beatrice and Moray sites in Scotland. It is hoped that these early assessment projects will lead to long term project development support, hence the launch of our metocean forecasting service, [www.SEASTATES.NET](http://www.SEASTATES.NET). Our modelling and survey teams continued to support R2 and R2.5 offshore wind developments and ABPmer undertook further thermal plume studies for CEFAS in relation to proposed new nuclear builds as well as for Helius Energy, biomass.

Our reputation in delivering successful habitat creation and managed realignment schemes continues and was demonstrated by our sell out optimising managed realignment conference held at the ICE. During 2010, we provided scoping and feasibility studies for the Environment Agency and are currently working with Bristol Port Company in relation to their compensation scheme for their Deep Sea Container Terminal. **Coastal sector** funding is likely to reduce in coming years due to the Government spending review however, coastal defence strategies and schemes will continue to be required to address increasing pressures on our coasts from flooding.

ABPmer provided marine spatial planning support to key stakeholders by launching a marine planning website as a mechanism for sharing our knowledge and providing a platform for discussion. We have been advising key players directly such as The Crown Estate and Oil and Gas UK in relation to marine conservation zone planning. In particular, the **planning and policy sector** has shown interest in our growing expertise in socio-economic valuation of our seas.

The **port sector** picked up as the economic situation improved. We supported ABP across its business units, including assisting ABP Southampton with regulator queries in relation to the proposed main channel dredge, preparing documentation for the Port Talbot capital dredge as well as guidance documents and supporting data through a GIS based tool to enable the ports to conduct their land quality assessments. We also undertook various monitoring surveys for dredging, contamination issues and bathymetric studies for a number of UK ports and harbours. Our Port Risk Assessment service (MarNIS toolkit) continues to be employed by UK port groups and interest is being shown by overseas players.

We won two significant impact assessment contracts in the marine aggregates **industry sector**. We hope to expand on these studies in future so that we become an established service provider in this market.

We anticipate that 2011 will be challenging but remain confident that our niche position and exciting R&D projects will continue to give us a strong market resilience.

The following pages offer a profile of our recent projects.

**Bill Cooper, Managing Director**



## Coastal Case Studies

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### Habitat Creation and Managed Realignment Projects

ABPmer is an established provider of specialist support to managed realignment and habitat creation schemes in the coastal zone. During 2010, we were commissioned to undertake both feasibility and scheme design studies at a variety of sites on the UK coast.

On completion of a design option review, ABPmer was awarded a contract by the Environment Agency to deliver the detailed design and supporting consents for a managed realignment scheme at Great Bells, Isle of Sheppey on the Swale Estuary. The project looks to breach existing sea defence walls to allow tidal waters to inundate approximately 20ha of land. ABPmer undertook investigations and hydrodynamic modelling to inform an Environmental Impact Assessment.

Also for the Environment Agency, we completed the EIA for the proposed managed realignment at Medmerry, West Sussex, which has since seen the scheme granted planning permission.

Additionally, ABPmer hosted an Optimising Managed Realignment Conference at One Great George Street, Westminster. This event was sold out and resulted in the setting up of an online discussion group.

### Deep Sea Container Terminal Compensation Scheme (Port of Bristol Company)

The Port of Bristol Company has contracted ABPmer to provide a complete EIA and consenting package for the delivery of its Compensation Scheme for the Bristol Deep Sea Container Terminal (BDSCT). The proposed mechanism for compensating for the terminal is to undertake a managed realignment on the Steart Peninsula.

ABPmer's managed realignment skills and experience will seek to deliver a minimum of 120ha of estuarine intertidal habitats comprising a mix of both saltmarsh and mudflat. At least 20ha of this must be intertidal mudflat. Through ABPmer's long established understanding of the area based on its delivery of the Coastal Habitat Management Plan (CHaMP) and other studies, ABPmer will ensure this scheme is placed in the context of the overall management of the Severn Estuary system.

### Southampton Coastal Defence Strategy (Southampton City Council)

ABPmer's specialist understanding of coastal processes is being employed by Southampton City Council in the preparation of its Coastal Defence Strategy.

The study includes: reviewing existing coastal processes within Southampton Water including the predicted extreme values for Town Quay and Dock Head; field survey to capture additional field data for model calibration and validation and; numerical modelling to investigate the change in water levels along the frontage of the study area. In addition to the estuary wide changes a review of the over land tidal inundation will be investigated looking at potential areas of flooding within the Southampton City area.

Southampton Water is internationally protected for its nature conservation value under the EU Birds and Habitats Directives and Ramsar convention. Although the frontage of the city of Southampton itself is not designated, there may be implications for the adjacent protected sites which would need to be identified. In addition to the coastal process and modelling aspects of the work, the ABPmer team will also provide intertidal/marine ecological support through the production of the required strategic Habitats Regulations Assessment.

## Energy Case Studies

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### Offshore Wind (various)

As a leading provider of specialist advice and technical expertise to the offshore wind sector, ABPmer has continued to support both regulatory organisations and developers during 2010.

As well as undertaking policy related research we have achieved great success in securing involvement in the majority of Round 3 Offshore Wind zones including Atlantic Array, Hastings and Norfolk as well as Scottish Territorial Water developments (Aberdeen, Beatrice and Moray). We have also continued to support Round 1 and Round 2 developers.

We also enjoy a position on the DECC Research framework.

### Habitat Regulations Appraisals for Renewal Energy in Scotland (Scottish Government)

In May 2010, a Draft Plan for offshore wind Energy in Scottish Territorial Waters was published by Marine Scotland. In July 2010, the Scottish Enterprise and Highlands and Islands Enterprise led the development of the National Renewables Infrastructure Plan at the request of Scottish Ministers.

A strategic environmental assessment was undertaken of both documents and identified the potential for a likely significant effect on sites designated for their nature conservation interest at the European level.

ABPmer was commissioned to undertake a Habitats Regulations Appraisal (HRA) for both documents and produce an Appropriate Assessment (AA) in fulfilment of obligations under the Habitats Regulations that implement the EC habitats and Birds Directives in UK waters.

Following SNH guidance for Plan-level HRAs, ABPmer undertook the 13 stage process including screening and "AA information production" stages.

### Thermal Plume Studies (Helius)

During 2010 opportunities in this sector have been limited but continue to emerge in relation to intake and outfall plume studies for conventional, biomass and nuclear power stations.

Helius Energy plc ("Helius Energy") is seeking to obtain development consent under Section 31 of the Planning Act 2008 in respect of a biomass fuelled electricity generating plant capable of generating approximately 100 Megawatts (Declared Net Capacity) and associated biomass processing and fuel store located within the Port of Southampton

As part of the Development Consent Order process an environmental statement is being prepared. ABPmer, a recognised provider of water quality assessments, has been commissioned to model the dispersion of temperature and treatment chemicals, associated with a discharge from the proposed biomass station. The information generated by the modelling study will be incorporated into the Environmental Statement.

## Industry Case Studies

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### West Wight EIA (Hansons Aggregates Ltd)

ABPmer was commissioned by Hansons Aggregates Ltd to prepare an environmental impact assessment to support future renewals and licensing plans..

Using the Regional Environmental Assessment (REA) as a foundation for the EIA, ABPmer also drew on its established track record for EIA preparation on behalf of marine developers, to develop a streamlined Environmental Statement.

This was the first time that an EIA was prepared from a completed REA and demonstrated the value of the REA process as a mechanism for focusing the scope of a statement.

### Cables and Pipelines (various)

ABPmer has been regularly commissioned throughout the year to undertake feasibility, routing and environmental impact studies in relation to proposed cable and pipeline projects including carbon capture and storage, HVDC links and other connections.

To make informed decisions, pipeline and cable planners and managers need information on: the state of the seabed and related sediment mobility; the constraints posed by natural and anthropogenic features and the regulatory framework within which marine consents are granted.

ABPmer provides a complete package of support to route planners and managers to satisfy statutory consenting requirements and the lifetime management of the asset.

### Humber Regional Environmental Assessment

ABPmer, a recognised provider of physical processes advice to the offshore sector, was awarded the hydrodynamics, sediment mobility and turbid plume study elements of the Humber and Greater Wash Area Marine Aggregates Regional Environmental Assessment (REA).

ABPmer's assessment will inform subsequent Environmental Impact Assessments for individual licence applications. This contract follows on from ABPmer's successful completion of the physical processes scoping study.

This is an important success for ABPmer, furthering our involvement with the offshore marine aggregates industry. This REA will facilitate an improved understanding of the marine environment and the pressures exerted on it by a range of anthropogenic activities in the Humber area. ABPmer worked with Environmental Resource Management Ltd (ERM) to deliver the full REA.

## Policy and Management Case Studies

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### Valuing the Marine Estate (The Crown Estate)

ABPmer was appointed by The Crown Estate to undertake a ground-breaking study to prepare an ecosystem services valuation for the Marine Estate and wider activities that occur within UK Seas. Working with effec, this study builds on an earlier scoping study, to support The Crown Estate in sustainably managing its estate.

The study seeks, for the first time, to provide a comprehensive ecosystem services valuation for the Marine Estate and UK Seas. To maximise its usefulness, the valuation framework has been designed to be applicable at a range of different spatial and temporal scales and information will be compiled within a geographic information system (GIS).

This study breaks new ground in seeking to develop a spatial valuation for UK Seas. It recognises the increasingly important role of environmental economics and the ecosystem services concept in supporting decision-making in the marine environment.

The framework will facilitate assessments of the overall impacts and benefits of marine policies and programmes in pursuit of sustainable marine development. The scoping report may be downloaded from The Crown Estate website: [http://www.thecrownestate.co.uk/mrf\\_general\\_studies.htm](http://www.thecrownestate.co.uk/mrf_general_studies.htm)

### EU SeaMap (JNCC)

ABPmer, a recognised developer of spatial marine data, was commissioned by the Joint Nature Conservation Committee (JNCC) prepare a series of digital mapping layers containing wave energy information within UK Seas and European Waters including the Kattegat Sea. This study builds on earlier work and describes in detail the tidal currents and wave processes within some of the worlds most highly dynamic environments.

Ultimately, the information contained within these highly resolved wave and hydrodynamic models were converted into meaningful ecological categories which are compatible with the European habitat classification scheme (EUNIS) and incorporated in to a GIS information system.

The results from this study have been used to provide a world class classification system for marine species.

### Quantifying the Potential Impact of a Marine Conservation Zone (MCZ) Network on the Development of Offshore Renewables (DECC)

ABPmer has significant experience in understanding the impacts of conservation designations on socio-economic interests, having recently completed studies for The Crown Estate and Oil and Gas UK. Given concerns over the sensitivity of MCZ conservation features of interest to the activities of offshore renewable energy developments, including construction, operation and decommissioning, there is a high likelihood that these activities may be restricted within MCZs. The designation of MCZs therefore has the potential to significantly impact on the development plan and target for offshore renewable energy.

ABPmer has been awarded a contract by DECC to provide an assessment of the impacts of the proposed MCZ network on commercial interests for renewable energy and ultimately on the UK's ability to meet the UK's 2020 renewable energy targets and 2050 emissions reductions targets.

## Port and Navigation Case Studies

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### Maintenance Dredge Protocol (Peel Ports)

The Maintenance Dredge Protocol is intended to provide dredge operators (and regulators) with assistance in gaining approval to carry out maintenance dredging where these activities may affect Natura 2000 European sites.

ABPmer was commissioned by Peel Ports, the second largest ports group in Britain to prepare a baseline review and assessment to assist applicants in the maintenance dredge consents process.

The final baseline documents and dredge strategies also included a review of the Water Framework Directive (WFD) with respect to maintenance dredging.

### Port Assessment Toolkit (Stena Line Ports)

ABPmer provided Stena Line, one of the Europe's leading ferry companies, with a customised MarNIS 'Port Assessment Toolkit' for managing marine risk within their network of UK Stena Line Ports.

The MarNIS 'Port Assessment Toolkit' has been adapted to help Stena Line comply with the requirements of the Port Marine Safety Code, with tailored versions of report formats, customised risk control, cause and hazard lists to provide a common standard for all ports within the Group.

Since developing the MarNIS prototype, significant interest has been shown by a number of port and harbour authorities in tailoring the product to the individual needs of port managers. We have also provided a bespoke MarNIS adaptation to the Queens Harbour Master, Portsmouth."

The Port Assessment Toolkit prototype can be downloaded free from the following website link: <http://www.abpmer.net/MarNIS/>.

### Land Quality Assessments (ABP)

ABPmer was commissioned by Associated British Ports, Britain's largest ports group, to undertake a Land Quality Assessment (LQA). The assessment identifies potential contaminates that could be associated with industry located on ABP estate (both historically and current), and assesses what the level of risk associated with any contaminates is likely to be. This information will be essential to identifying those sites where future site investigation and possible remediation may be required.

The LQA is based on principles used in the statutory guidance given in the Defra Circular 01/2006 on Environmental Protection Act 1990 Part 2A: Contaminated Land (Defra, 2006) and develops a LQA methodology that categorised each port estate according to the potential risk of it comprising contaminated land.

Ultimately, the collated information will be provided as an interactive GIS tool for use by the port managers.

## Conferences and Events 2010

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ABPmer presented at a number of conferences and events across the UK and overseas

### **ABPmer: Optimising Managed Realignment**

Progress we have made over the first two decades

### **AGI and IMAREST: Information Strategies for Marine Spatial Planning**

Science Needs to Inform Marine Spatial Planning

### **CIWEM: Annual Conference 2010**

Managed Realignment – Lessons Learnt

### **CIWEM: Modelling and Visualisation to Effectively Communicate Flood Risk**

The Value of Visualisations in Managed Realignment Schemes

### **CMS: Marine Spatial Planning**

Key Note Address: Marine Planning and Management – Key Themes

### **CMS: Socio-Economics in the Marine Environment**

Valuing change in UK Seas – The Crown Estate Project

### **Dorset Coastal Forum- CScope Conference**

Socio-economics and marine planning: an overview

### **EA: Developing Markets for Ecosystem Services**

Policy Perspectives

### **IFM: Fisheries in Transition – source to sea**

Managed Realignment and Habitat Creation

### **Humber INCA: Humber Estuary Conference 2010**

ABP's Managed Realignments at Welwick and Chowderness

### **Institute of Fisheries Management: Fisheries in Transition**

Managed Realignments

### **International Corrosion Workshop**

Potentially Polluting Wrecks: a UK perspective

### **Littoral 2010**

Wallasea Island Wild Coast Project

Working with natural processes to achieve sustainable habitat creation – Good Practice

Understanding risk to the community of Spurn Head (Humber Estuary)

### **NCE: Coastal and Marine Geotechnics**

Applying seabed sediment research to support the delivery of Round 3 plan

Delivering Sustainable Defence through Managed Realignment

### **NERC: Marine Issues**

Marine Planning Issues

## Conferences and Events 2010 (contd)

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### **PIANC - 2010**

Marnis – Port Assessment Toolkit

### **REA: Wave and Tidal Technology Symposium (WATTS) 2010**

Autocrat – Managing Marine Mammal Collision Risk

### **Renewable UK (BWEA): Marine Conservation Zone Workshop**

MCZs: contributing socio-economic information for the renewable energy sector

### **Solent Forum: Water Quality Conference 2010**

Marine Strategy Framework Directive

### **Solent Forum: Southern Marine Planning Conference**

MCZ Planning – Taking Account of Socio-Economic Factors

### **UKHMA: Spring Seminar 2010**

Maintenance Dredge Protocol and Marine Strategy Framework Directive

### **UKHMA: Seminar Autumn 2010**

Water Injection Dredging – Applied Understanding

### **University of Plymouth: Urban Research on Biodiversity on Artificial & Natural Coastal Environments**

The Managed Realignment Life Cycle

## Acknowledgements

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industry (aggregates) British Marine Aggregate Producers Association  
[www.bmapa.org](http://www.bmapa.org)