

## Data Collection and Ecosystem Service Valuation



Having identified the marine ecosystem services we would like to focus on, the next phase of work in the North Devon case study is to collect the necessary data and undertake the valuation/assessment exercise.

VALMER project's specialists in marine data and mapping from the *Marine Biological Association* have trawled existing datasets to identify, quantify and map the sub-tidal sedimentary habitats and their associated ecosystems in the case study area.

### Specifically data has been collected on:

- ★ Human activities and uses that affect the seabed – their distribution and intensity in the NDBR marine area
- ★ Ecology – seabed species and habitats, nursery and spawning areas for commercially important fish species and reported catches
- ★ Management – existing measures including MPAs and fisheries restrictions

To ensure these data are as accurate and up-to-date as possible a range of **local stakeholders have been invited to comment on the data: verify, identify gaps and suggest additional sources.**

Using these data a team of environmental economists from *Plymouth Marine Laboratory* will then, assess and ascribe value, both in monetary and in non-monetary terms to the seabed, as a habitat to support commercially targeted fish.

For more information on VALMER's North Devon Case Study please contact:

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For more information on the VALMER project and the other case study sites please visit: [www.valmer.eu](http://www.valmer.eu)



## NORTH DEVON CASE STUDY



## VALMER Case Studies

The VALMER project is focused on six case study sites at which the techniques and methods of Ecosystem Services Assessment (ESA) and its application will be explored with a cross section of local stakeholders. These six case studies are the heart of the VALMER project both in terms of providing a central coordinating focus for the different work packages, and in demonstrating the project's emphasis on the practical application and value of an ecosystem services approach. They are where the project will show not only how ESA has the potential to improve marine management and planning in theory but, crucially, how such an improvement can be achieved in the context of real, site specific, marine management issues.

## The North Devon Case Study

The VALMER North Devon case study is focused on the marine and coastal parts of the UNESCO designated North Devon Biosphere Reserve (NDBR). With the input of the NDBR's Marine Working Group and a range of other local stakeholders, the VALMER North Devon team aims to undertake an ecosystem services assessment and ascribe value, both in monetary and in non-monetary terms, to the areas sub-tidal sedimentary habitats and the commercially targeted fish species they support. Building on this work the VALMER team and local stakeholders will also build multiple 'scenarios' that explore a range of possible pressures and impacts that could have an effect on these habitats and their ability to support fish populations.

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## Marine Habitats and Ecosystem Services



Within the North Devon case study site are a range of marine and coastal habitats and ecosystems providing a suite of different services and benefits which contribute in various ways to local economies and more broadly to human wellbeing. The choice of which habitats and associated ecosystem services to assess in North Devon was based on a number of stakeholder considerations and criteria including the practicality, originality, and policy relevance of any potential valuation. To facilitate the decision making process an innovative triage tool was used with stakeholders during the spring of 2013 to examine the relative merits of these options. Through this process there emerged a clear preference for a valuation and assessment of **subtidal sedimentary habitats.**

Covering the greater part of the case study area (over 79%) these **seabed muds, sands, and gravels** are very easy to overlook and yet in North Devon, as in other similar areas, they incorporate a range of ecosystems and are home to a rich variety of flora and fauna. As such they provide a host of benefits but principal among them is their role in supporting **commercial fish species production** through providing food for fish and suitable nursery and spawning grounds.



The VALMER project was selected under the European cross-border cooperation programme INTERREG IV A France (Channel) – England, co-funded by the ERDF.

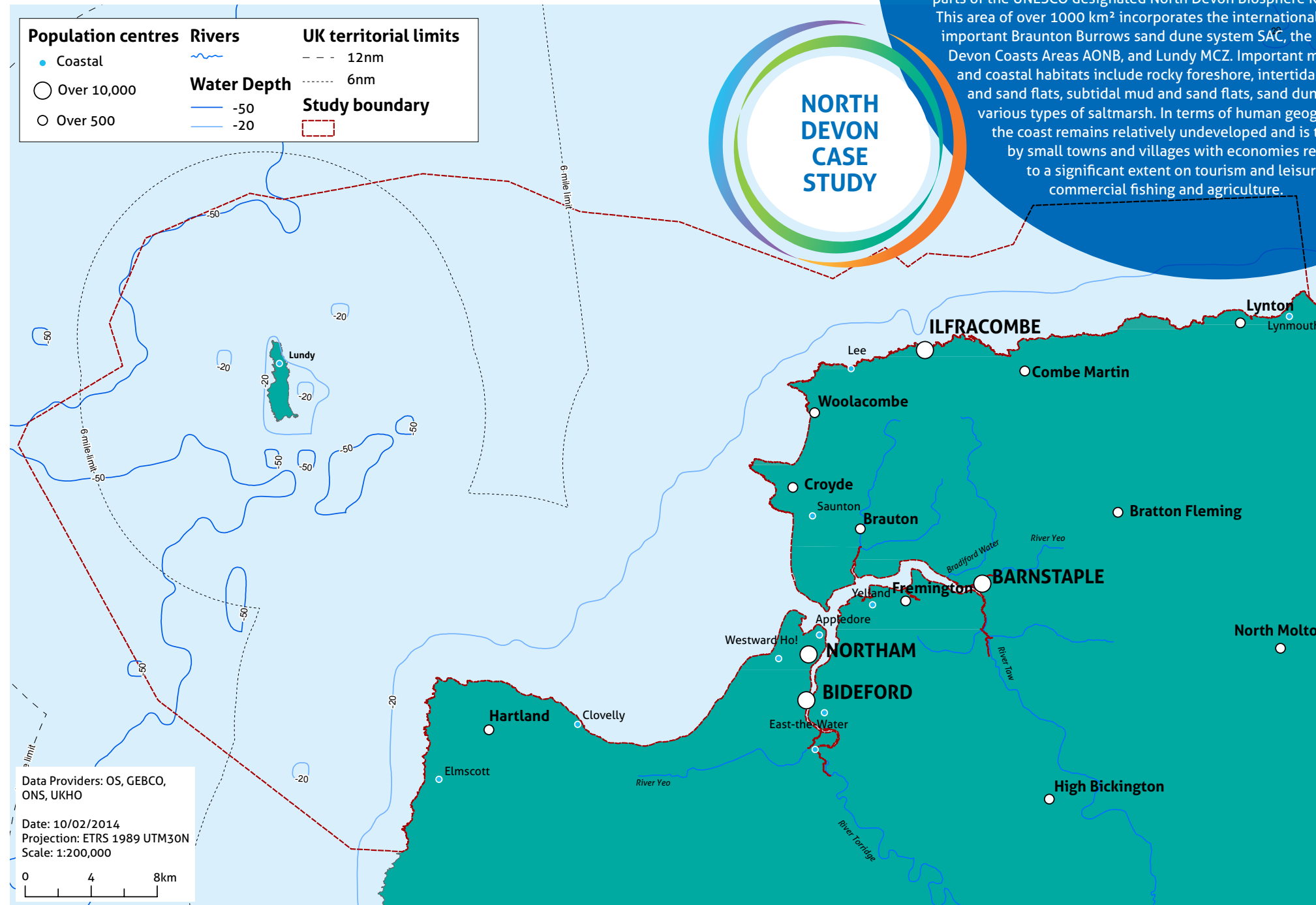


Photo Credits: Ray Culmer, Paul Naylor

## Exploring Scenarios and Developing Marine Visions

While the VALMER ecosystem mapping and valuation data represents a valuable resource in itself, it will also be used as the basis from which to build and trial a number of scenarios. Scenarios will be developed that represent plausible management options. These may include possible future developments such as **renewables installations, Marine Conservation Zones or other changes in use or management**. The scenarios will be elaborated into changes in human activities and management measures in the case study area. Critical to the success of the scenario building process will be the involvement of local stakeholders both in horizon-scanning for possible future change and elaborating these into maps of activities. This information will be used as input into a network model that will compute changes in the seabed ecology and consequent changes in ecosystem service values that result from changes in activities and management of the site.

Underpinned by the findings of these scenarios and in further collaboration with local stakeholders VALMER will also work towards the production of a 'marine vision' for the North Devon case study area. It is intended that this vision will represent the aspirations of local stakeholders and citizens for the long-term availability and management of subtidal sedimentary ecosystem services in the area.



The North Devon Case Study site comprises the marine and coastal parts of the UNESCO designated North Devon Biosphere Reserve. This area of over 1000 km<sup>2</sup> incorporates the internationally important Braunton Burrows sand dune system SAC, the North Devon Coasts Areas AONB, and Lundy MCZ. Important marine and coastal habitats include rocky foreshore, intertidal mud and sand flats, subtidal mud and sand flats, sand dunes and various types of saltmarsh. In terms of human geography the coast remains relatively undeveloped and is typified by small towns and villages with economies reliant to a significant extent on tourism and leisure, commercial fishing and agriculture.

## Who We Are Working With

Of vital importance to VALMER's work at all its case study sites is the involvement of local stakeholders. In North Devon we are working with a wide range of key stakeholders within the marine and coastal governance sector. In particular, we are working closely with the **North Devon Biosphere Reserve's Management Partnership and its Marine Working Group**.

With a specific marine and coastal remit, the NDBR Marine Working Group, which includes representatives from environmental organisations, fishing, tourism and water sports, was originally established to coordinate local input into the MCZ process but continues to be a key forum for the discussion and coordination of marine and coastal issues and events in the North Devon area. In addition VALMER is working with a host of other interested stakeholders and local citizens.

### Timeline and Key Dates

- Initial Stakeholder Engagement Spring/Summer, 2013
- Stakeholder Meeting 1: 'Data Validation' – Autumn, 2013
- Stakeholder Meeting 2: 'Scenario Building' – Winter, 2014
- Stakeholder Meeting 3: 'Current ES Valuation' – Spring, 2014
- Stakeholder Meeting 4: 'Scenario Outcomes and Visioning' – Summer, 2014
- Finalising modelling and mapping outputs; production of case study summary report – Autumn, 2014
- VALMER Project conclusion – 31st March, 2015