

## **North West & North Wales Coastal Group**

# **North West England and North Wales Shoreline Management Plan SMP2**

Appendix L: Metadata and Bibliography

## Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Approved by
1	0	Draft for client review	22 August 2008	A Parsons
2	1	Draft Final	17 March 2009	A Parsons
3	2	Consultation Draft	1 October 2009	A Parsons
4	3	Consultation and QRG comments addressed	9 September 2010	A Parsons
5	0	Final	18 February 2011	A Parsons

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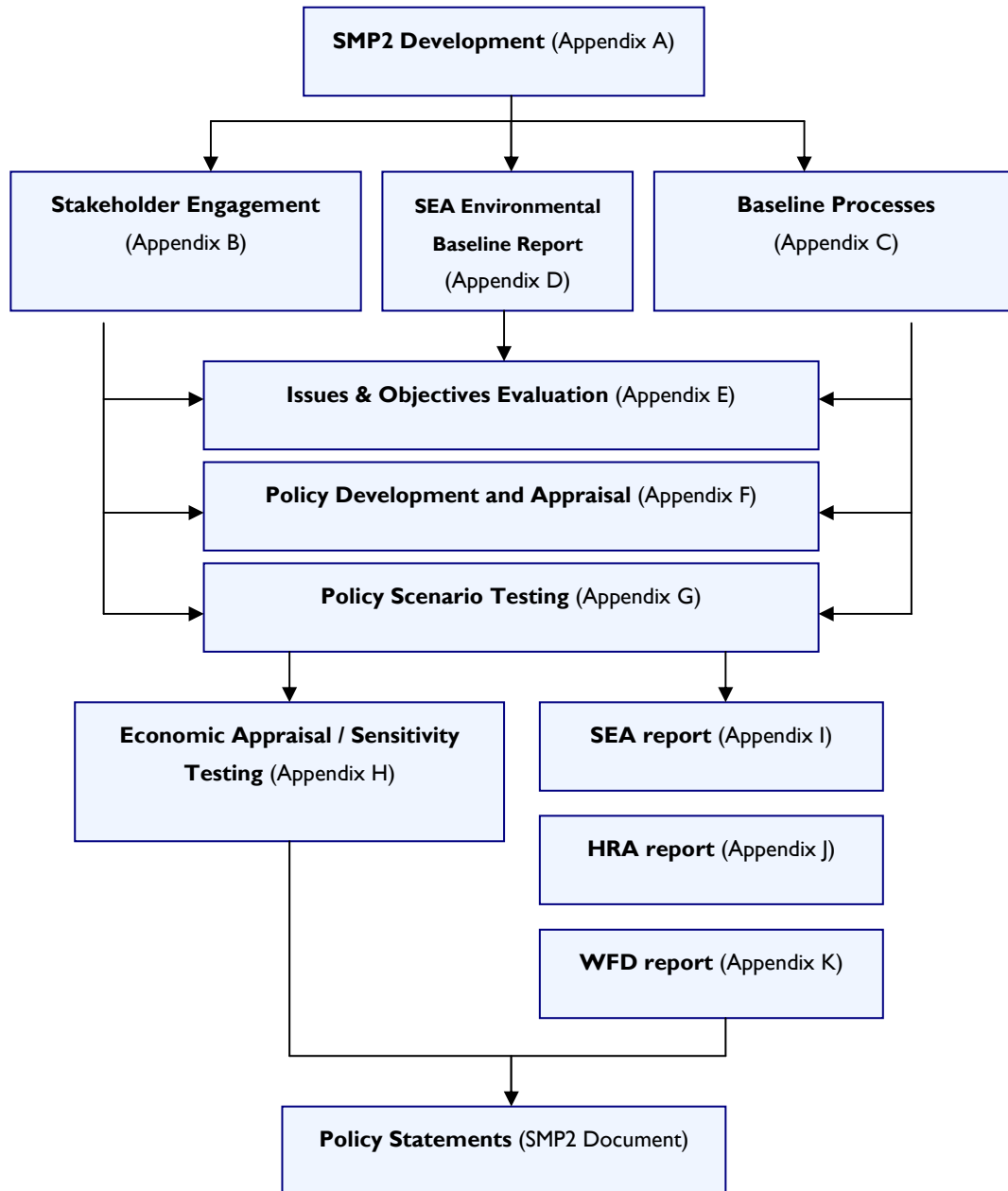
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## The Supporting Appendices

These appendices and the accompanying documents provide all of the information required to support the Shoreline Management Plan. This is to ensure that there is clarity in the decision-making process and that the rationale behind the policies being promoted is both transparent and auditable. The appendices are:

A: SMP2 Development	This reports the history of development of the SMP2, describing more fully the plan and policy decision-making process.
B: Stakeholder Engagement	All communications from the stakeholder process are provided here, together with information arising from the consultation process.
C: Baseline Process Understanding	Includes baseline process report, defence assessment, NAI and WPM assessments and summarises data used in assessments.
D: SEA Environmental Baseline Report (Theme Review)	This report identifies and evaluates the environmental features (human, natural, historical and landscape).
E: Issues & Objectives Evaluation	Provides information on the issues and objectives identified as part of the Plan development, including appraisal of their importance.
F: Policy Development and Appraisal	Presents the consideration of generic policy options for each frontage, identifying possible acceptable policies, and their combination into 'scenarios' for testing. Also presents the appraisal of impacts upon shoreline evolution and the appraisal of objective achievement.
G: Policy Scenario Testing	Presents the policy assessment and appraisal of objective achievement towards definition of the Preferred Plan (as presented in the Shoreline Management Plan document).
H: Economic Appraisal and Sensitivity Testing	Presents the economic analysis undertaken in support of the Preferred Plan.
I: Strategic Environmental Assessment (SEA) Report	Presents an overview of the environmental assessment process and shows how the requirements of the EU Council Directive 2001/42/EC (the Strategic Environmental Assessment Directive) are met.
J: Habitat Regulations Assessment	Presents an assessment of the effect the plan will have on European sites.
K: Water Framework Directive Assessment	Presents the Water Framework Directive assessment of the potential hydromorphological changes and consequent ecological impact of the preferred SMP2 policies.
L: Metadatabase and Bibliographic database	All supporting information used to develop the SMP2 is referenced for future examination and retrieval.

Within each appendix cross-referencing highlights the documents where related appraisals are presented. The broad relationships between the appendices are illustrated below.



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## L.1 Bibliographic Database

This Appendix includes a list of the key reference materials used in the development of the Shoreline Management Plan.

### L.1.1 MAIN SMP2 DOCUMENT

References stated in the Main SMP2 Document are as follows:

Defra (2006) **Shoreline Management Plan Guidance**. March 2006

Halcrow (2002) **Futurecoast**. CD produced as part of the Futurecoast project for Defra.

Defra (2003) **Procedural Guidance for the Production of Shoreline Management Plans**; Interim Guidance May 2003.

Defra (2004) **Supplementary Procedural Guidance**, 2004.

NWRCZA (2009) **North West Region Coastal Zone Assessment**.

<http://www.defra.gov.uk/environment/flooding/index.htm>

<http://www.communities.gov.uk/publications/planningandbuilding/consultationcoastal>

### L.1.2 Appendix A – SMP2 Development

References stated in Appendix A are as follows:

- Defra (2006). **Shoreline Management Plan Guidance**. March 2006.
- Shoreline Management Partnership (1999a) **Sub-Cell I Ia: Great Orme's Head to Formby Point Shoreline Management Plan**.
- Shoreline Management Partnership (1999b) **Sub-Cell I Ib: Formby Point to River Wyre Shoreline Management Plan**.
- Shoreline Management Partnership (1999c) **Sub-Cell I Ic: River Wyre to Walney Island Shoreline Management Plan**.
- Bullen Consultants Ltd (1998b) **Sub-Cell I Id: Walney Island to St Bees Head Shoreline Management Plan**.
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- Halcrow (2010) **Cell Eleven Tidal and Sediment Study (CETaSS) stage 2(ii) Report**.

### L.1.3 Appendix C - Baseline Process Understanding

The Baseline Process Understanding has developed from a number of key references, i.e. the previous SMP, strategy studies and relevant extracts from Futurecoast. Other reports have also been reviewed, some of which were cited in the aforementioned studies.

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#### L.1.4 Appendix D – SEA Environmental Baseline Report (Theme Review)

A number of reports and other information sources were reviewed in the development of the thematic studies. The maps produced also used information layers from websites such as Natural England and MAGIC.

##### (a) Reports

- Archaeological Research Services Limited (2009) **North West Rapid Coastal Zone Assessment Executive Summary.** ARSL: Report produced for English Heritage, Gateshead
- Bullen Consultants Ltd (1998a) **Cell 11d Walney Island to St Bee's Head Shoreline Management Plan.** Copeland Borough Council.

- Bullen Consultants Ltd (1998b) **Cell I I e St Bee's Head to the Scottish Border Shoreline Management Plan**. Allerdale Borough Council.
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(b) Web sites and additional information sources

<http://www.communities.gov.uk>

<http://www.wales.gov.uk>

<http://www.planningportal.gov.uk>

<http://www.wikipedia.org>

<http://www.ukstudentlife.com/Travel/Transport/Ferry.htm>

<http://www.nhs.uk>

<http://www.wales.nhs.uk>

<http://www.nero.ac.uk>

<http://www.bwea.com>

[http://www.bgs.ac.uk/mineralsuk/digital\\_maps/maps/home.html](http://www.bgs.ac.uk/mineralsuk/digital_maps/maps/home.html)  
<http://www.homepages.mcb.ne>  
<http://www.ukmpas.org>  
<http://www.jncc.gov.uk>  
<http://www.rspb.org.uk>  
<http://www.wildlifetrusts.org.uk>  
<http://www.ukbap.org.uk>  
<http://www.britishports.org.uk>  
<http://www.defence-estates.mod.uk>  
<http://www.magic.gov.uk>  
<http://www.english-heritage.org.uk>  
<http://www.ccw.gov.uk>  
<http://www.environment-agency.gov.uk>  
<http://www.naturalengland.org.uk>  
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<http://www.visitenglandsnorthwest.com>  
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<http://www.aonb.org.uk>  
  
<http://www.Defra.gov.uk>  
  
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<http://www.denbighshire.gov.uk>  
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<http://www.lancaster.gov.uk>  
<http://www.barrowbc.gov.uk>  
<http://www.copelandbc.gov.uk>  
<http://www.allerdale.gov.uk>  
<http://www.carlisle.gov.uk>  
<http://www.cumbria.gov.uk>  
<http://www.southlakeland.gov.uk>  
<http://www.wyrebc.gov.uk>  
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<http://www.fylde.gov.uk>  
<http://www.westlancsdc.gov.uk>  
<http://www.taith.gov.uk>  
  
<http://www.sefton.gov.uk>

(c) Miscellaneous References

National Nature Reserve Management Plans

SSSI Citation Sheets (Natural England)  
Agricultural Land Classification Map, Defra  
Microsoft Autoroute 2002  
National Rail Timetable Map 2008  
SPA citation sheets (JNCC)  
SAC citation sheets (JNCC)  
Ramsar citation sheets (JNCC)  
Solway Basin Natural Area Profile (English Nature 1997)  
West Cumbria Coastal Plain Natural Area Profile (English Nature 1997)  
Cumbria Fells and Dales Natural Area Profile (English Nature 1997)  
Lancashire Plain and Valleys Natural Area Profile (English Nature 1998)  
Urban Mersey Basin Natural Area Profile (English Nature 1997)  
Liverpool Bay Natural Area Profile (English Nature 1997)  
Morecambe Bay Natural Area Profile (English Nature 1997)  
Cumbrian Coast Natural Area Profile (English Nature 1997)  
Solway Firth Natural Area Profile (English Nature 1997)  
The Irish Sea Marine Natural Area (English Nature 2004)

### L.1.5 Appendix E – Issues and Objectives

References stated in Appendix E are as follows:

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### L.1.6 Appendix G – Policy Appraisal

References stated in Appendix G are as follows:

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- Halcrow (2005) **Lower Lune Flood Risk Management Strategy**. Report Produced For The Environment Agency (North West Region). October, 2005.
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- Pye K and Blott S J (2008) **Decadal-scale variation in dune erosion and accretion rates: An investigation of the significance of changing storm tide frequency and magnitude on the Sefton coast, UK**. Geomorphology.
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Produced by Wyre Borough Council. 62 pp + Appendices.

Wyre Borough Council (2004) **Wyre Flood and Coastal Defence Strategy Plan**.

### L.1.7 Appendix H – Economic Appraisal

References stated in Appendix H are as follows:

#### (a) Reports

- Defra (2004). **NADNAC National Appraisal of Defence Needs and Costs Study**.
- Defra (2006). **Flood and Coastal Defence Appraisal Guidance, FCDPAG3 Economic Appraisal, Supplementary Note to Operating Authorities – Climate Change Impacts**. October 2006.
- Defra (2008). **Flood and Coastal Defence Appraisal Guidance Economic Appraisal Supplementary Note to Operating Authorities: Valuation of Agricultural Land and Output for Appraisal Purposes**. May 2008.

#### (b) Other data

Other data used in the economic appraisal includes:

- National Property Database (includes residential and commercial property values;
- Replacement costs for general defence types have been taken from the recently developed Environment Agency database.
- Maintenance costs have been taken from NADNAC (National Appraisal of Defence Needs and Costs) (2004) Halcrow in association with HR Wallingford Limited & John Chatterton & Associates. Defra.

### L.1.8 Appendix I – Strategic Environmental Assessment

References stated in Appendix I are as follows:

- **Conservation (Natural Habitats &c.) Regulations 1994 (as amended) and the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007**.
- Defra (2001) **Flood and Coastal Defence Project Appraisal Guidance (PAG) 2: Strategic Planning and Appraisal**
- Defra (2003) **Procedural Guidance for the Production of Shoreline Management Plans**; Interim Guidance May 2003.
- Defra (2004) **Supplementary Procedural Guidance**, 2004.
- Defra (2006) **Shoreline Management Plan Guidance**. March 2006.
- MAFF (2000) **Flood and Coastal Defence Project Appraisal Guidance (PAG) 5: Environmental Appraisal**.

- ODPM (2003) **The Strategic Environmental Assessment Directive: Guidance for Planning Authorities. Practical guidance on applying European Directive 2001/42/EC**
- Office of the Deputy Prime Minister (2005) **Practical Guide to the Strategic Environmental Assessment Directive”**  
(<http://www.communities.gov.uk/documents/planningandbuilding/pdf/practicalguidesea.pdf>).

### L.1.9 Appendix J – Habitat Regulations Assessment

References stated in Appendix J are as follows:

- English Nature (now Natural England) Habitat Regulations Guidance Note: **The Appropriate Assessment (Regulation 48) The Conservation (Natural Habitats &c) Regulations, 1994.**
- **Technical Advice Note (TAN) 5: Nature Conservation and Planning** (1996).
- Department for Communities and Local Government (2006) - **Planning for the Protection of International Sites: Guidance for Regional Spatial Strategies and Local Development Documents.**
- Circular 06/05: **Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System.**
- Halcrow (2010b) **Appendix A – Regional & Sub-tidal modelling.** Report prepared by Halcrow Group Ltd for the North West and North Wales Coastal Group as part of the Cell Eleven Tide and Sediment transport Study (CETaSS) Stage 2, 2010,
- Halcrow (2010c) **Appendix B - Littoral sediment modelling.** Report prepared by Halcrow Group Ltd for the North West and North Wales Coastal Group as part of the Cell Eleven Tide and Sediment transport Study (CETaSS) Stage 2, 2010.
- Halcrow (2010f) **Appendix E - Potential implications of future sea level rise for estuarine sediment budgets and morphology in northwest England and north Wales.** Report prepared by K Pye and S Blott for Halcrow Group Ltd as part of the Cell Eleven Tide and Sediment transport Study (CETaSS) Stage 2 for the North West and North Wales Coastal Group, October 2009.
- Halcrow (2010h) **Appendix G - Modelling studies for the Duddon.** Report prepared by Halcrow Group Ltd for the North West and North Wales Coastal Group as part of the Cell Eleven Tide and Sediment transport Study (CETaSS) Stage 2, 2010.
- Halcrow (2010i) **Appendix H - Morecambe Bay: Morpho-sedimentary dynamics review.** Report prepared by Halcrow Group Ltd for the North West and North Wales Coastal Group as part of the Cell Eleven Tide and Sediment transport Study (CETaSS) Stage 2, 2010.
- Halcrow (2010j) **Appendix I – Regional assessment of coastal squeeze.** Report prepared by Halcrow Group Ltd for the North West and North Wales Coastal Group as part of the Cell Eleven Tide and Sediment transport Study (CETaSS) Stage 2, 2010.



## L.1.10 Appendix K – Water Framework Directive assessment

References stated in Appendix K are as follows:

- Environment Agency (2009a) **Water Framework Directive: step by step process for assessing Shoreline Management Plans**, 82\_09.
- Environmental Agency (2009b) [online], **What's in your backyard?**, Available: [http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=\\_\\_e](http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=__e) [Accessed 040909]
- Environmental Agency (2009c) [online], **Water Framework Directive**, Available: <http://www.environment-agency.gov.uk/research/planning/33106.aspx> [Accessed 040909]

## L.2 Mapped Data

### L.2.1 Main SMP2 Document – Policy Maps

#### (a) Basemapping (Communication, Topography and Coastline)

Simple map information based upon the Ordnance Survey, Meridian data (provided under licence, © Crown Copyright) to form the backdrop to the mapped information. Environment Agency Licence number: 100026380.2008.

#### (b) Present coastline

This was defined from a combination of Ordnance Survey mapping, aerial photography, and data input the National Coastal Erosion Risk Mapping project as part of that projects' local validation stage.

#### (c) Indicative Erosion Zones

These were defined as part of the assessment of shoreline response for the final policy and NAI (see **Appendix C** and the **main document** for details of this assessment) for years 2025, 2055 and 2105.

#### (d) EA Flood Zone Mapping

Environment Agency 2008 flood zone mapping was provided by the Environment Agency. This mapping provides a general overview of areas of land in natural floodplains and indicates where coastal flooding is possible. It should be noted that the EA is continually updating its maps and these should be used in preference to those presented in this SMP.

#### (e) National Nature Conservation Designation

For clarity of presentation, this combined datasets for: National Nature Reserves and SSSI sites (see below in Section L.2.3).

#### (f) International and National Nature Conservation Designation

For clarity of presentation, this combined datasets for: SPA, Ramsar, SAC, National Nature Reserves and SSSI sites (see below in Section L.2.3).

#### (g) Important Heritage Sites

For clarity of presentation, this included only Scheduled Ancient Monuments.

#### (h) Policy unit boundaries

These were defined as part of the SMP2 and mapped accordingly.

### L.2.2 Appendix C – 'No Active Intervention' Flood and Erosion Risk Maps

#### (a) Basemapping (Communication, Topography and Coastline)

As above.

#### (b) Present coastline

As above.

(c) Indicative Erosion zones

These were defined as part of the assessment of shoreline response for the two scenarios: ‘no active intervention’ and ‘with present management’ (see Appendix C for details of this assessment) for years 2025, 2055 and 2105.

(d) EA Flood Zone Mapping

As above.

### L.2.3 Appendix D – Theme Maps

(a) Data obtained from MAGIC website

A number of data sets were obtained from the government website MAGIC (Multi-Agency Geographic Information for the Countryside). These datasets were obtained in 2008. Copyright information is available on the website: [www.magic.gov.uk](http://www.magic.gov.uk):

- Areas of Outstanding Natural Beauty;
- Shellfishery harvesting areas;
- Heritage Coasts; and
- National Parks.

(b) Data obtained from Natural England and CCW

A number of data sets were obtained from Natural England ([www.naturalengland.org.uk](http://www.naturalengland.org.uk)) and the Countryside Council for Wales ([www.ccw.gov.uk](http://www.ccw.gov.uk)). These datasets were obtained in 2008:

- Ramsar sites;
- Special Areas of Conservation (SAC);
- Special Protection Areas (SPA);
- Sites of Special Scientific Interest (SSSI);
- National Nature Reserves; and
- Local Nature Reserves.

(c) Data Obtained from English Heritage

Heritage Environment Records (HERs), formally known as Sites and Monuments Records, are a primary source of information on the local historic environment. Data from these were provided by County Archaeologists, and supplemented with national datasets from English Heritage. The following classes were mapped:

- Grade I listed;
- Grade 2\* listed;
- Scheduled Ancient Monument;
- Conservation Areas
- World Heritage Sites;
- Protected Wreck Sites; and,
- Registered Parks and Gardens.

(d) Data obtained from the Environment Agency and Environment Agency Wales

A number of data sets were obtained from the Environment Agency. These datasets were obtained in 2008:

- Historic Landfill sites;
- Authorised landfill sites;
- EA indicative flood map; and,
- Critical infrastructure.

## L.2.4 Appendix H – Economic Appraisal

(a) National Property Database

Environment Agency licensed data comprising of Ordnance Survey AddressPoint and Valuation Office data. This has not been reproduced on the final maps presented, but was used in the analysis of property loss.