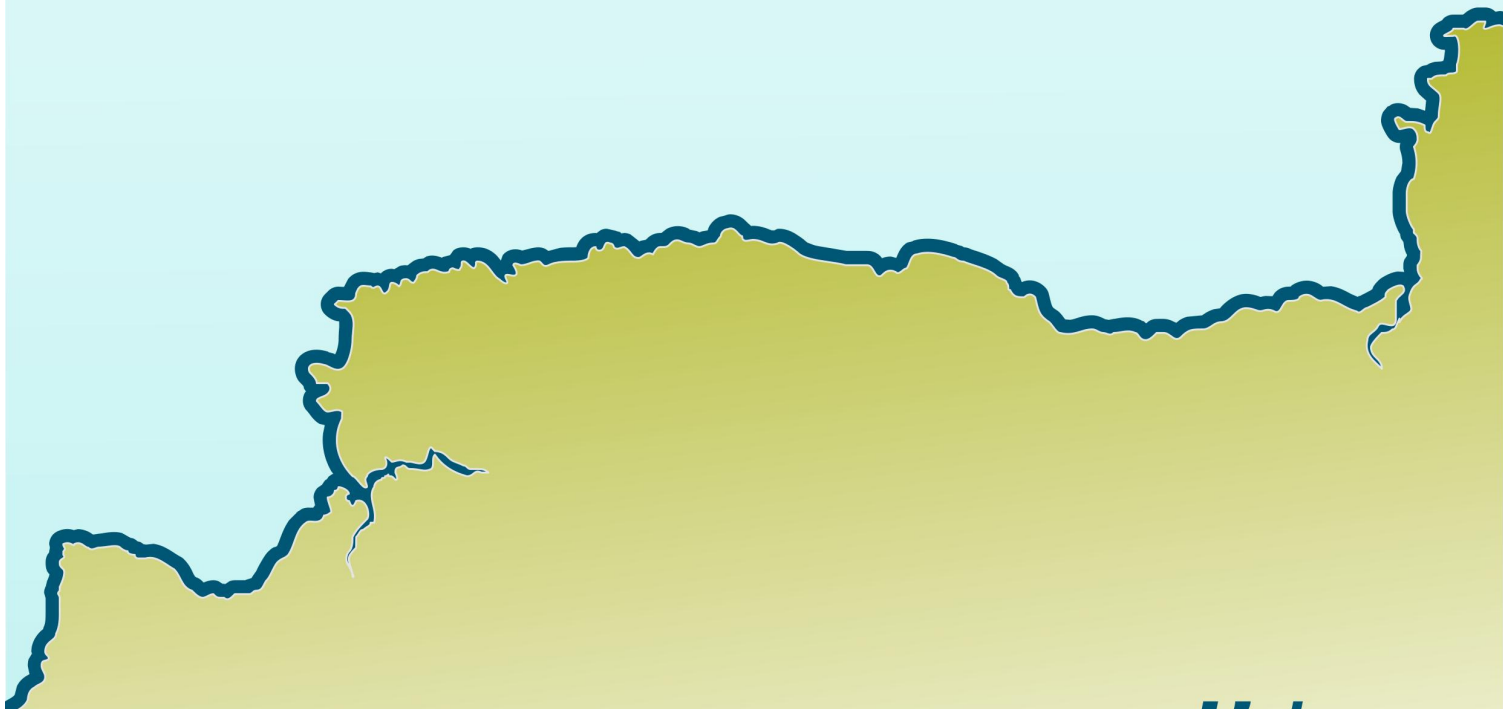


# North Devon and Somerset Coastal Advisory Group (NDASCAG)

## Shoreline Management Plan Review (SMP2) Hartland Point to Anchor Head

### Appendix L – Sources of Data

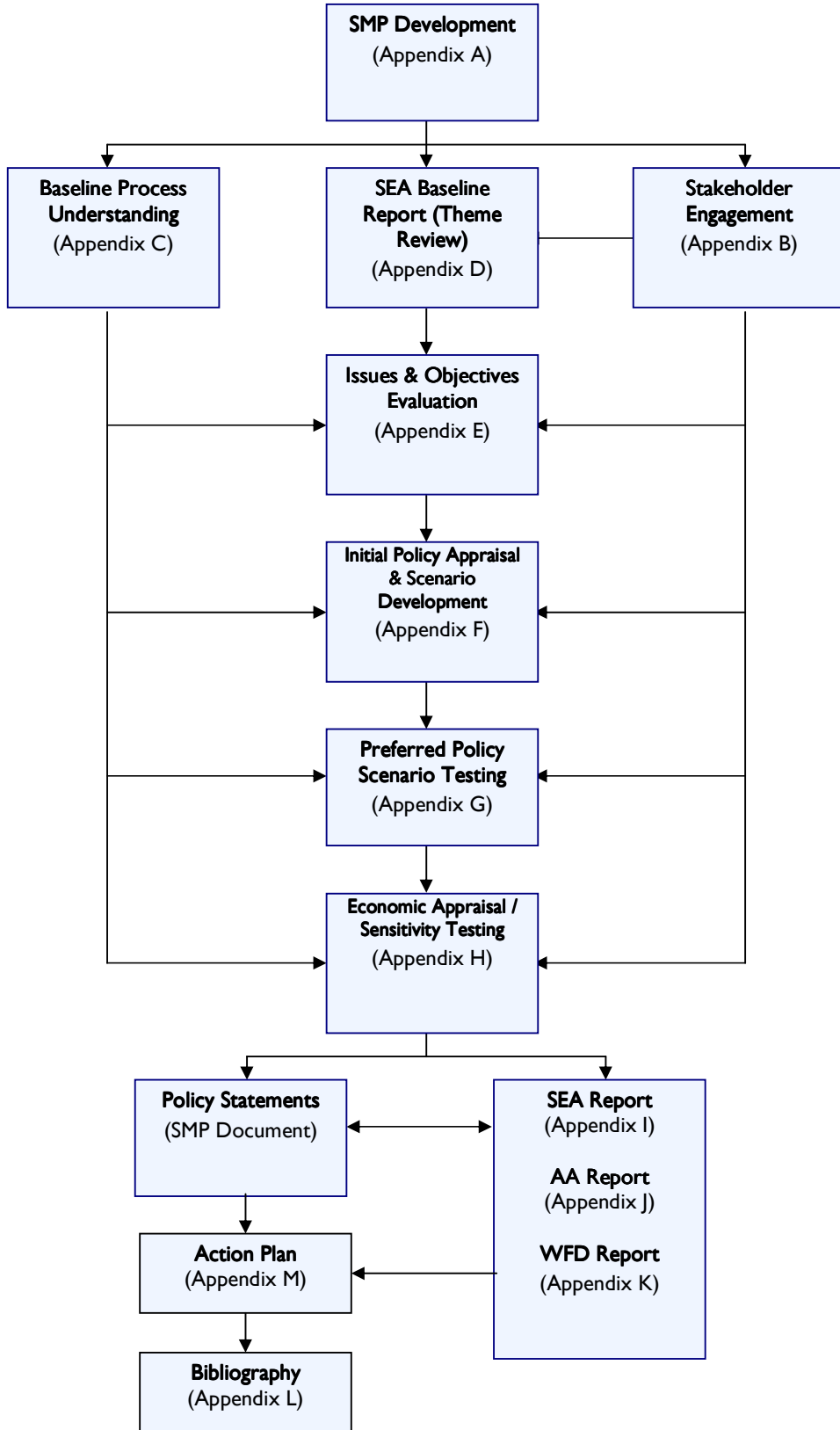


## The Supporting Appendices

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: SMP Development	This reports the history of development of the SMP, 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: Initial Policy Appraisal & Scenario Development	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: Preferred 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 the various items undertaken in developing the Plan that specifically relate to the requirements of the EU Council Directive 2001/42/EC (the Strategic Environmental Assessment Directive), such that all of this information is readily accessible in one document.
J: Appropriate Assessment Report	Presents the Appropriate Assessment of SMP policies upon European designated sites (SPAs and SACs) as well as Ramsar sites, where policies might have a likely significant effect upon these sites. This is carried out in accordance with the Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations).
K: Water Framework Development Report	Presents assessment of potential impacts of SMP policies upon coastal and estuarine water bodies, in accordance with the requirements of EU Council Directive 2000/60/EC (the Water Framework Directive).
L: Metadatabase and Bibliographic database	All supporting information used to develop the SMP is referenced for future examination and retrieval.
M: Action Plan Summary Table	Presents the Action Plan items included in Section 6 of the main SMP document (The Plan) in tabular format for ease of monitoring and reporting action plan progress.

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



## Table of Contents

<b>L.1</b>	<b>BIBLIOGRAPHIC DATABASE</b> .....	<b>1</b>
L.1.1	Main SMP Document .....	1
L.1.2	Appendix A – SMP Development.....	2
L.1.3	Appendix C - Baseline Process Understanding.....	2
L.1.4	Appendix D – SEA Environmental Baseline Report (Theme Review) .....	5
L.1.5	Appendix H – Economic Appraisal .....	6
L.1.6	Appendix K – Water Framework Directive Assessment .....	7
<b>L.2</b>	<b>MAPPED DATA</b> .....	<b>8</b>
L.2.1	Main SMP Document – Policy Maps.....	8
L.2.2	Appendix C – ‘No Active Intervention’ Flood and Erosion Risk Maps .....	8
L.2.3	Appendix D – Theme Maps .....	9
L.2.4	Appendices F, G and H.....	9

## 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 SMP Document

References stated in the Main SMP Document are as follows:

- Atkins (2004). **ICZM in the UK: A Stocktake, Final report.**
- Burgess, KA and Townend, I.H (2004). **The impact of climate change upon coastal defences structures.** In: 39th Defra Conference of River and Coastal Engineers, Defra, London, 11.01.1-11.01.10.
- Communities and Local Government website. **Coastal communities to be given new powers to help local economies.** Internet site: <http://www.communities.gov.uk/news/corporate/1289597>. Date accessed: 27<sup>th</sup> April 2010.
- Conservation (Natural Habitats &c.) Regulations 1994 (as amended) and the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007.
- Defra (2001). **Shoreline Management Plans: A Guide for Coastal Defence Authorities.**
- Defra (2001). **Flood and Coastal Defence Project Appraisal Guidance (PAG) 2: Strategic Planning and Appraisal.**
- Defra (2003). **Procedural Guidance for Production of Shoreline Management Plans – Interim Guidance.** May 2003.
- Defra (2006). **Shoreline Management Plan Guidance.** March 2006.
- Devon County Council website. **Geology to see in North Devon and Exmoor.** Internet site: [http://www.devon.gov.uk/index/environmentplanning/natural\\_environment/geology/northerndevon.htm#39](http://www.devon.gov.uk/index/environmentplanning/natural_environment/geology/northerndevon.htm#39). Date accessed: 23<sup>rd</sup> February 2010.
- English Heritage (2006). **Shoreline Management Plan Review and the Historic Environment: English Heritage Guidance.** June 2006.
- Environment Agency (2009a). **Flood and coastal risk management in England: A long-term investment strategy.**
- Environment Agency (2009b). **Preferred Parrett Estuary Flood Risk Management Strategy Report.** Consultation Draft (January, 2009).
- Halcrow (1998). **Bridgwater Bay to Bideford Bay Shoreline Management Plan.** North Devon and Somerset Coastal Group, June 1998.
- Giffords Associated Consultants (2000). **Severn Estuary Shoreline Management Plan.** Severn Estuary Coastal Group, December 2000.
- MAFF (2000). **Flood and Coastal Defence Project Appraisal Guidance (PAG) 5: Environmental Appraisal.**
- Natural England (2005). **Our coasts and seas – making space for people, industry and wildlife.** Available online: <http://naturalengland.etraderstores.com/NaturalEnglandShop/Product.aspx?ProductID=6aa71926-7341-46c1-ac04-24ae0bc5e2a5>
- ODPM (2003). **The Strategic Environmental Assessment Directive: Guidance for Planning Authorities. Practical guidance on applying European Directive 2001/42/EC ‘on the assessment of the effects of certain plans and programmes on the environment’ to land use and spatial plans in England.**
- ODPM (2005). **A Practical Guide to the Strategic Environmental Assessment Directive.** Available online: <http://www.communities.gov.uk/documents/planningandbuilding/pdf/practicalguidesea.pdf>.
- Office of Science and Technology (2004). **Foresight: Future Flooding.** <http://www.foresight.gov.uk>

- South West Regional Assembly (2006). **The Draft Regional Spatial Strategy for the South West 2006 – 2026.**

### L.1.2 Appendix A – SMP Development

References stated in Appendix A are as follows:

- Defra (2006). **Shoreline Management Plan Guidance.** March 2006.
- Halcrow (1998). **Bridgwater Bay to Bideford Bay Shoreline Management Plan.** North Devon and Somerset Coastal Group, June 1998.
- Giffords Associated Consultants (2000). **Severn Estuary Shoreline Management Plan.** Severn Estuary Coastal Group, December 2000.

### 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.

#### (a) Key references

- Black & Veatch (2008). **Burnham to Brean Coastal Study: Final Report.** Environment Agency South-West Region, April 2008.
- Black & Veatch (2009). **Warren Point to Dunster Beach Coastal Defence Study: Draft Report** Environment Agency South-West Region, February 2009.
- Environment Agency (2009). **Preferred Parrett Estuary Flood Risk Management Strategy Report.** Consultation Draft (January, 2009).
- Giffords Associated Consultants (2000). **Severn Estuary Shoreline Management Plan.** Severn Estuary Coastal Group, December 2000.
- Halcrow (1998). **Bridgwater Bay to Bideford Bay Shoreline Management Plan.** North Devon and Somerset Coastal Group, June 1998.
- Halcrow (2002). **Futurecoast.** *See also the Defra website: <http://www.defra.gov.uk/environ/fcd/policy/smp.htm>*
- Pethick J. (2007). **The Taw/Torridge Estuary: Geomorphology and Management.** Report to Taw/Torridge Estuary Officers Group (February, 2007).

#### (b) Other references

- Atkins (2009). **Severn Estuary Flood Risk Management Strategy: Flood Risk Management at Steart Peninsula, River Parrett and Burnham-on-Sea (Draft Report).** Environment Agency, April 2009.
- Babbie Brown & Root (2002). **Stolford to Combwich Strategy Study – Volume I Strategy Summary Plan (consultation draft).** Environment Agency South-West Region, September 2002.
- Black & Veatch (2004). **Weston Seafront Strategy Study.** North Somerset Council, May 2004.
- Black & Veatch (2006a). **Minehead to Blue Anchor Coastal Defences: Technical Report.** Environment Agency South-West Region, July 2006.
- Black & Veatch (2006b). **Bridgwater to Burnham-on-Sea Flood Management Strategic Report (Draft).** Environment Agency South-West Region, August 2006.

- Black & Veatch (2006c). **Parrett Tidal Flood Defence: Sluice/Embankments Technical Review**. Environment Agency South-West Region, December 2006.
- Bray M. (2000). **Porlock Bay Research and Preliminary Results**. Letter from Dr Malcolm Bray (University of Portsmouth) to Sue Ford and Nick Stevens (Environment Agency North Wessex Area), 20<sup>th</sup> April 2000.
- Bray M.J and Duane W.J. (2001) **Porlock Bay: Geomorphological investigation and monitoring**. Report to the Environment Agency by RACER.
- Bray M. and Duane W. (2005). **Porlock Bay Geomorphological Investigation and Monitoring: Gravel Barrier Breaching and Tidal Lagoon Development**. Defra/Environment Agency R&D research project STCG 024, March 2005.
- Cazenave, A. et al., (2009) **Sea level budget over 2003-2008: A reevaluation from GRACE space gravimetry, satellite altimetry and ARGO**. *Global and Planetary Change* 65, 83-88. Taken from *The Copenhagen Diagnosis* (2006).
- Church, J. A. & N. J. White, (2006) **A 20th century acceleration in global sea-level rise**. *Geophysical Research Letters* 33, L01602. Taken from *The Copenhagen Diagnosis*
- **The Copenhagen Diagnosis, 2009: Updating the World on the Latest Climate Science**. I. Allison, N.L. Bindoff, R.A. Bindshadler, P.M. Cox, N. de Noblet, M.H. England, J.E. Francis, N. Gruber, A.M. Haywood, D.J. Karoly, G. Kaser, C. Le Quéré, T.M. Lenton, M.E. Mann, B.I. McNeil, A.J. Pitman, S. Rahmstorf, E. Rignot, H.J. Schellnhuber, S.H. Schneider, S.C. Sherwood, R.C.J. Somerville, K. Steffen, E.J. Steig, M. Visbeck, A.J. Weaver. The University of New South Wales Climate Change Research Centre (CCRC), Sydney, Australia, 60pp.
- Cope S.N. (2004). **Breaching of UK Coarse-Clastic Barrier Beach Systems: methods developed for predicting breach occurrence, stability and flooded hinterland evolution**. PhD, University of Portsmouth.
- Corns R.G. (2006). **Blue Anchor to Lilstock Coast SSSI – Sea Defences at the Blue Anchor Hotel**. Letter from R. G. Corns (Conservation Officer, Natural England) to Mr S. Strom (Owner, Blue Anchor Hotel), 6<sup>th</sup> December 2006.
- Defra and Environment Agency (2002). **UK Climate Impacts Programme 2002 Climate Change Scenarios: Implementation for Flood and Coastal Defence: Guidance for Users (R&D Technical Report W5B-029/TR)**.
- Defra (2006). **Flood and Coastal Defence Appraisal Guidance FCDPAG3 Economic Appraisal: Supplementary Note to Operating Authorities – Climate Change Impacts**.
- Environment Agency (2006). **Bridgwater to Burnham-on-Sea Flood Management**. Draft Strategic Planning Report. August 2006.
- Environment Agency (2008). **North Devon Catchment Flood Management Plan**. Consultation Draft (April, 2008).
- Everything Exmoor website. **Woolacombe**. <http://www.everythingexmoor.org.uk/W/Woolacombe.php>. Date accessed: 11/12/2008.
- Garrard P (2006). **Dunster Beach Chalets Flood Risk Plan**. Dunster Beach Holidays Ltd, October 2006. Work undertaken for Three Counties Flood Risk Assessment.
- GeoSea Consulting (1997). Quoted in SMP Halcrow (1998) op cit.
- Halcrow (2009). **Stear Peninsula Managed Realignment: Preliminary Geomorphological Assessment (Draft)**. Environment Agency, April 2009.
- Halcrow (May 2009). **National Flood and Coastal Defence Database (NFCDD): Hartland Point to Anchor Head NFCDD update**.
- HR Wallingford (2002). **Culver Sand, Bristol Channel: Study of Coastal Impacts of Proposed Dredging – Stage 2: Final Report (Report EX4600)**. Hanson Aggregates Marine Limited, December 2002.
- Hulme M., Jenkins G.J., Lu X., Turnpenny J.R., Mitchell T.D., Jones R.G., Lowe J., Murphy J.M., Hassell D., Boorman P., McDonald R. and Hill S (2002). **Climate Change Scenarios for the United Kingdom: The**

**UKCIP02 Scientific Report.** Tyndall Centre for Climate Change Research, School of Environmental Sciences, University of East Anglia, Norwich, UK. 120pp.

- IPCC (2007). **Climate Change 2007: The Fourth Assessment Report.** United Nations Intergovernmental Panel on Climate Change.
- Jacobs Babbie (2005). **Lilstock Sea Defence and Outfall Pre-Feasibility Study (Final Report).** Environment Agency South-West Region, October 2005.
- Jacobs Babbie (2006). **Brue Pill Tidal Banks Stabilisation Pre-Feasibility Study (Final Report).** Environment Agency South-West Region, February 2006.
- Jacobs (2008). **Taw Banks Study Report (Rev A03).** Environment Agency South-West Region, February 2008.
- Jennings S., Orford J.D., Canti M., Devoy R.J.N. and Straker V. (1998). **The role of relative sea-level rise and changing sediment supply on Holocene gravel barrier development: the example of Porlock, Somerset, UK.** *The Holocene* 8, 2 (1998) pp. 165-181.
- Kirby R (1996) **Hartland Point to Brean Down: Summary of existing knowledge of coastal trends and stability.** Ravensrodd Consultants.
- Landmark Trust's Lundy Island website. **Emergency Appeal to save lifeline to Lundy.** <http://www.lundyisland.co.uk/appeal.htm>. Date accessed: 20/10/2008.
- Long A.J., Dix J.K., Kirby R., Lloyd Jones D., Roberts D.H., Croudace I.W., Cundy A.B., Roberts A., and Shennan I. (2002). **The Holocene and Recent Evolution of Bridgwater Bay and the Somerset Levels.**
- Lundy Field Society website<sup>1</sup>. **The Island.** <http://www.lundy.org.uk/inf/island.html>. Date accessed: 22/10/2008.
- Lundy Field Society website<sup>2</sup>. **The Geology of Lundy, by Sandy Smith.** <http://www.lundy.org.uk/lfs/is/geology.html>. Date accessed: 22/10/2008.
- Manning C. (2007). **Braunton Marsh Management Study 2007.** Taw Torridge Estuary Forum.
- May V J (2003a). **Braunton Burrows.** Geological Conservation Review Volume 28: Coastal Geomorphology of Great Britain – Chapter 7: Sandy beaches and dunes – GCR site reports. Joint Nature Conservation Committee website (<http://www.jncc.gov.uk/pdf/gcrdb/gcrsiteaccount3213.pdf>). Date accessed: 12/12/2008.
- May V J (2003b). **Blue Anchor – Watchet - Lilstock.** Geological Conservation Review Volume 28: Coastal Geomorphology of Great Britain – Chapter 4: Soft-rock cliffs – GCR site reports. Joint Nature Conservation Committee website (<http://www.jncc.gov.uk/pdf/gcrdb/gcrsiteaccount3213.pdf>). Date accessed: 12/12/2008.
- May V J (2003c). **Westward Ho! Cobble Ridge.** Geological Conservation Review Volume 28: Coastal Geomorphology of Great Britain – Chapter 6: Gravel and 'shingle' beaches – GCR site reports. Joint Nature Conservation Committee website (<http://www.jncc.gov.uk/pdf/gcrdb/gcrsiteaccount3213.pdf>). Date accessed: 12/12/2008.
- McTernan M. and Wilson H. (1999). **Coastal Management in Porlock Bay: A Case Study and Role Play for A-level and GCSE Geographers.** Reprinted from *Field Studies Vol. 9 No. 3 (1999)*.
- OMRReG website. **Details for Walborough, Axe.** Internet site: <http://www.abpmer.net/uploads/omrreg/details1.asp?ID=32&lstLocation=Axe>. Date accessed: 12/03/2010.
- Orford, J.D., Carter, R.W.G. and Jennings, S.C. (1996) **Control domains and morphological phases in gravel-dominated coastal barriers.** *Journal of Coastal Research*, 12, 589–605.
- Orford J. (2003). **Porlock Gravel Barrier.** Extracted from Geological Conservation Review Volume 28: Coastal Geomorphology of Great Britain – Chapter 6: Gravel and 'shingle' beaches – GCR site reports. May V.J. and Hanson J.D. Joint Nature Conservation Committee website (<http://www.jncc.gov.uk/pdf/gcrdb/gcrsiteaccount3213.pdf>). Date accessed: 12/12/2008.



- Orford J. (2005). **Further Geomorphological Advice in Respect of Westward Ho! SSSI**. English Nature, October 2005.
- Orford J. and Bradbury A. (2008). **Westward Ho! Future Scenarios for the “Pebble Ridge”:** **Geomorphology Scoping Study**. Technical Officers Group for Taw/Torridge Estuary/Bideford Bay, May 2008.
- Pethick J. (2002). **Porlock Bay: Future Development**. Presentation given at a conference hosted by the National Trust at Porlock, 9<sup>th</sup> October 2001.
- Plymouth Coastal Observatory (2008). **Minehead 2008**. South West Strategic Regional Coastal Monitoring Programme.
- POL website. **PSMSL Monthly and Annual Mean Sea Level Station Files (Avonmouth)**. Internet site: [http://www.pol.ac.uk/psmsl/psmsl\\_individual\\_stations.html](http://www.pol.ac.uk/psmsl/psmsl_individual_stations.html). Date accessed: 12/03/2010.
- Posford Haskoning (2003). **Report on Regional Extreme Tide Levels**. Environment Agency South West Region.
- Pye K. and Saye S. (2005). **The Geomorphological Response of Welsh Sand Dunes to Sea Level Rise over the next 100 years and the Management Implications for SAC and SSSI Sites**. Countryside Council for Wales (CCW) Contract Science Report No. 670, February 2005. 219pp.
- Royal Haskoning (2004). **Washford River and Watchet: Pre-Feasibility Studies 2002/2003 batch, Final Report**. Environment Agency and Somerset Local Flood Defence Committees, January 2004.
- Royal Haskoning (2007). **Weston-super-Mare Sea Defences Project Appraisal Report**. North Somerset Council, June 2007.
- Royal Haskoning (2008). **Hinkley Point Scoping Report**. Final Report. Report produced for British Energy, November 2008.
- Sedgemoor District Council (2008). **Level 1 Strategic Flood Risk Assessment**. Sedgemoor District Council. August 2008.
- Slade G.D. (2009). **A report on coastal erosion at Westward Ho!, North Devon**.
- Spearing H.G. (1884) **On the Recent Encroachment of the Sea at Westward Ho!, North Devon**. Quarterly Journal of the Geological Society 1884; v. 40; p. 474-478.
- Taw-Torridge Estuary Forum, 2007. **Braunton Marsh Management Study 2007**. Produced by Clare Manning for the Taw Torridge Estuary Forum.
- Torridge District Council (2006). **Westward Ho! Beach Management Plan 2007/8**. Torridge District Council, May 2006.
- UKCIP (2005). **Updates to regional net sea-level change estimates for the UK**.
- UKCIP08 (2007). **The Climate of the United Kingdom and Recent Trends**.
- UKCP09 (2009). **The Climate of the UK and Recent Trends**. UK Climate Projections website: <http://ukclimateprojections.defra.gov.uk/content/view/full/816/9/>. Date accessed: 22/09/2009.
- United Kingdom Hydrographic Office (2008). **Admiralty Tide Tables Volume I 2009: United Kingdom and Ireland (including European Channel Ports)**.
- White, J.L. (2009). **Recording Gravel Transport at a Barrier Beach**. Journal of Coastal Research, SI 56 (Proceedings of the 10<sup>th</sup> International Coastal Symposium), 5-9. Lisbon, Portugal.

#### L.I.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

- **Bridgwater to Bideford Bay Shoreline Management Plan**, North Devon and Somerset Local Group, June 1998.
- **Draft Revised Regional Spatial Strategy for the South West** incorporating the Secretary of State's Proposed Changes, Government Office for the South West, July 2008.
- **Braunton United Nations Educational Scientific and Cultural Organisation (UNESCO) Strategy 2007- 2012**
- **North Devon District Local Plan**, North Devon District Council, adopted 2006.
- **Torridge District Local Plan**, Torridge District Council, adopted 2006.
- **North Somerset Replacement Local Plan**, North Somerset Council, adopted March 2007.
- **North and Mid Somerset Catchment Flood Risk Management Plan**, Environment Agency, Draft June 2008.
- **North Devon Catchment Flood Risk Management Plan**, Environment Agency, Draft June 2007.
- **Parrett Catchment Flood Risk Management Plan**, Environment Agency, Draft July 2008.
- **Severn Estuary Rapid Coastal Zone Assessment Phase One Report for English Heritage**, Gloucestershire County Council, Draft January 2008 .
- **Severn Estuary Coastal Habitat Management Plan**, Environment Agency 1996.
- **Sedgemoor District Local Plan**, Sedgemoor District Council, 1991 - 2011 adopted version.
- **West Somerset Catchment Flood Risk Management Plan**, Environment Agency, July 2008.
- **West Somerset District Local Plan**, West Somerset District Council, April 2006.

(b) Web sites and additional information sources

- [Government of the South-West \(http://gosw.limehouse.co.uk/portal\)](http://gosw.limehouse.co.uk/portal).
- [UK Biodiversity Action Plan \(http://www.ukbap.org.uk\)](http://www.ukbap.org.uk).
- [Natural England \(http://www.naturalengland.org.uk\)](http://www.naturalengland.org.uk).
- [Environment Agency \(http://environment-agency.gov.uk\)](http://environment-agency.gov.uk).
- [English Heritage \(http://english-heritage.org.uk\)](http://english-heritage.org.uk).
- [MAGIC \(http://www.magic.gov.uk\)](http://www.magic.gov.uk).
- [Office for National Statistics \(http://www.ons.gov.uk/census\)](http://www.ons.gov.uk/census).
- [North Devon District Council \(http://www.nddc.gov.uk\)](http://www.nddc.gov.uk).
- [North Somerset Council \(http://www.n-somerset.gov.uk\)](http://www.n-somerset.gov.uk).
- [West Somerset District Council \(http:// www.westsomersetonline.gov.uk\)](http://www.westsomersetonline.gov.uk).
- [Sedgemoor District Council \(http:// www.sedgemoor.gov.uk\)](http://www.sedgemoor.gov.uk).
- [Torridge District Council \(http:// www.torridge.gov.uk\)](http://www.torridge.gov.uk).
- [Exmoor National Park \(http:// www.exmoor-nationalpark.gov.uk\)](http://www.exmoor-nationalpark.gov.uk).
- [Devon Sea Fisheries Committee \(www.devonseafisheriescommittee.co.uk\)](http://www.devonseafisheriescommittee.co.uk).

### L.1.5 Appendix H – Economic Appraisal

Information on assets, benefits, and management costs was extracted from available strategy plans and scheme assessments.

(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.
- Environment Agency (2007). **Flood Risk Management Estimating Guide Unit Cost Database.**
- RICS (2009). **Rural Land Market Survey, HI 2009.** July 2009:  
[http://www.rics.org/site/download\\_feed.aspx?fileID=3564&fileExtension=PDF](http://www.rics.org/site/download_feed.aspx?fileID=3564&fileExtension=PDF)

(b) Other data

Other data used in the economic appraisal includes:

- National Property Database 2005 dataset (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.1.6 Appendix K – Water Framework Directive Assessment

- Defra (2006). **Shoreline management plan guidance Volume 2: Procedures.** Department for Environment, Food and Rural Affairs, March 2006.
- Environment Agency (2009). **Operational Instruction 82\_09. Water Framework Directive: Step by Step Process for Assessing Shoreline Management Plans.** 24/03/09.
- Royal Haskoning (2008). **Water Framework Directive: Retrospective Assessment for the River Tyne to Flamborough Head SMP2.** December 2008.
- Royal Haskoning (2009). **Appendix K: Water Framework Directive Assessment Northumberland SMP2.** May 2009.
- Royal Haskoning (2009). **Poole and Christchurch Bays SMP2 (Draft).** August 2009.

## L.2 Mapped Data

### L.2.1 Main SMP 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. Mapping at scales 250,000 and 10,000 was used. Environment Agency Licence number: 100026380.2009.

#### (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 (see Appendices C and G 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 J.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 J.2.3).

#### (g) Important Heritage Sites

For clarity of presentation, this included only Scheduled Ancient Monuments and Grade 2 buildings and above.

#### (h) Policy unit boundaries

These were defined as part of the SMP 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).

#### (b) Data obtained from Natural England

A number of data sets were obtained from Natural England ([www.naturalengland.org.uk](http://www.naturalengland.org.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 and County Historic Environment Registers

Historic 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 Devon, Somerset and North Somerset County Archaeologists and Exmoor National Park. This data was supplemented with national datasets from English Heritage. The following classes were mapped:

- HER listed building;
- HER listed monument;
- Grade 1 listed;
- Grade 2 listed;
- Grade 2\* listed;
- Scheduled Ancient Monument;
- HER region;
- Protected Wreck Sites; and
- Non-scheduled archaeological sites.

### L.2.4 Appendices F, G and H

#### (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.