



Annex 2:
Glossary

ANNEX 2: GLOSSARY

This glossary explains some of the technical words and terms used in the Lavernock Point to St Ann's Head Shoreline Management Plan 2.

Term	Definition
Accretion	The process by which particles carried by the flow of water or by the wind are deposited and accumulate (opposite is erosion).
Adaptable design	Design of flood or coastal erosion risk management measures that allows for future increases to the standard of service that the works provide, or to facilitate future strengthening or heightening of a flood defence in response to, for example, climate change.
Adaptive management	An approach to managing systems with inherent uncertainties that involves learning from the system's responses to intervention, then using that learning to improve future management.
Advance the Line (ATL)	An SMP2 policy option. New defences are built seaward of the original defences, in order to create new land. This policy is restricted to places where significant land reclamation is considered.
Alluvial	Of, or relating to, alluvium.
Alluvium	Sediments deposited by running water, generally not lake or marine sediments.
Annual probability of exceedance	Probability of exceeding a specified level in any year (inverse of the return period for an annual maximum series).
Appraisal	The process of defining objectives, examining options and weighing up the costs, benefits, risks and uncertainties before a decision is made.
Appropriate Assessment (AA)	See Habitats Regulations Assessment.
Area of Outstanding Natural Beauty (AONB)	Nationally important areas that are protected to conserve and enhance natural beauty including flora, fauna, geological and landscape features.
Asset	This refers to something of environmental, economical, social or recreational value. In flood and coastal erosion risk management any man-made or natural feature, such as a seawall, revetment or embankment, that performs a flood or coastal erosion risk management function.
Backwash	Water flowing down the beach after a wave has broken. Return to sea of the swash.
Barrier (beach or dune barrier)	Long, narrow beach or dune system running parallel to the coastline, which is generally separated from the mainland by coastal bays or marshes.
Baseline	Starting point. In environmental assessment it is a description of existing conditions.
Bathymetry	The spatial variability of levels on the sea bed and the corresponding varying water depth.

Term	Definition
Beach crest	The point on the beach which marks the limit of high tide storm wave activity.
Beach recharge	This is the management practice of adding to the natural amount of sediment (such as sand) on a beach by using material from elsewhere. This is also known as beach replenishment, nourishment or feeding.
Behavioural systems approach	A method of looking at how a coast is changing and is likely to change in the future by assessing all the factors that affect its behaviour at a range of scales, both in terms of time and distance. This approach was adopted in the Futurecoast project.
Benefit-cost ratio	A comparison of the present value of coastal erosion and flood risk management benefits and costs as part of an economic appraisal. The benefit-cost ratio is the total present value benefits divided by the total present value costs.
Biodiversity	The total variety of life on earth. All genes, species, eco-systems and the ecological processes of which they are part.
Biodiversity Action Plan (BAP)	An action plan for a key habitat or species (to achieve targets for enhancing the diversity of biological life, the abundance of species and their habitats), approved by the government, as part of the overall UK Biodiversity Action Plan.
Biological element	A collective term for a particular characteristic group of animals or plants present in an aquatic ecosystem (e.g. benthic invertebrates, macrophytes, fish).
Biological quality element	A characteristic or property of a biological element that is specifically listed in Annex V of the Water Framework Directive for the definition of the ecological status of a water body (for example composition of invertebrates; abundance of angiosperms; age structure of fish).
Birds Directive	The abbreviated term for Council Directive 79/409/EC of 2 April 1979 on 'The conservation of wild birds'. The Directive aims to protect bird species within the EU through the conservation of populations and the habitats used by these species.
Blow-out	Hollows or depressions in a dune system, lacking in vegetation, which have developed through erosion.
Brackish water	Freshwater mixed with seawater.
Breach	A crack, break or rupture of a seawall, revetment or embankment that performs a flood or coastal erosion risk management function.
Breakwater	A structure (masonry, rock or concrete armour-faced structure or sand filled geotextile tube) which provides shelter from waves to an area inshore (eg. port, harbour, marina or beach). Breakwaters may extend out from the shore, or may be detached from the shore, typically parallel to the shore.

Term	Definition
Cadw	Cadw is a Welsh word which means 'to keep'. Cadw is the Welsh Assembly Government's historic environment division. Cadw aim to: protect and sustain, encourage community engagement in, and improve access to the historic environment of Wales. This includes historic buildings, ancient monuments, historic parks, gardens & landscapes and underwater archaeology.
Capital Value (CV)	The actual value of costs or benefits.
Catchment Flood Management Plan (CFMP)	Catchment Flood Management Plans (CFMPs) provide a large-scale strategic planning framework setting out policies for the integrated management of fluvial flood risks to people, the developed and natural environment in a sustainable manner over the next 50-100 years. A CFMP is a high level policy plan, dealing with flood risks from rivers, equivalent to an SMP.
Chart Datum (CD)	Approximately the lowest astronomical tidal level, excluding the influence of the weather. The level to which tidal levels and water depths are reduced on bathymetric charts produced by the Admiralty for the UK coast.
Client Steering Group (CSG)	A group set up by Swansea and Carmarthen Bay Coastal Engineering Group to commission and lead the development of the SMP2. The group is comprised of technical officers and engineering and planning representatives from the coastal Local Authorities (Vale of Glamorgan Council, Bridgend County Borough Council, Neath Port Talbot County Borough Council, City and County of Swansea, Carmarthenshire County Council and Pembrokeshire County Council), Environment Agency Wales, Countryside Council for Wales, Welsh Assembly Government, Ministry of Defence, National Trust and Glamorgan Gwent and Dyfed Archaeological Trusts.
Cliffing	The development of almost vertical cliffs, up to 2m high (although generally less than 1m) following creation of a new beach slope after beach recharge. The cliffs occur at, or above mean high tide, and are a result of mixing of different sized sediments and compaction of material by mechanical plant.
Climate change	A change in the statistical distribution of weather over periods of time that range from decades to millions of years. It can be a change in the average weather or a change in the distribution of weather events around an average (for example, greater or fewer extreme weather events). Climate change may be limited to a specific region, or may occur across the whole Earth. It can be caused by recurring, often cyclical climate patterns such as El Niño-Southern Oscillation, or come in the form of more singular events. In recent usage, especially in the context of environmental policy, climate change usually refers to changes in modern climate. It may be qualified as anthropogenic climate change, more generally known as global warming or anthropogenic global warming.
Coastal defence	A term used to encompass both coastal protection against erosion and sea defence against flooding.

Term	Definition
Coastal group	Voluntary groups made up of maritime local authorities and other bodies with coastal defence responsibilities. They produce SMPs on behalf of maritime local authorities.
Coastal National Park Authorities	Coastal National Park Authorities have planning, development control and coastal management responsibilities in partnership with local authorities (e.g. Pembrokeshire Coast National Park Authority).
Coastal processes	The set of processes that operate along a coast.
Coastal squeeze / Coastal narrowing	The process by which coastal habitats and natural features are progressively lost or drowned, between fixed coastal defences (seawalls or revetments) and rising sea levels
Coastal water body	See Water body.
Competent Authority	In relation to the Habitats Regulations, A Competent Authority is any Minister, Government Department, public or statutory undertaker, public body of any description or person holding public office. For a coastal defence project this includes at least the following organisations: the Local Planning Authority (which decides on planning permission), the Operating Authority (which makes decisions about the design), and if it has to decide whether to fund a scheme, WAG.
Consequence	An outcome or a result, such as economic, social or environmental effect. It may be expressed as a quantity (such as monetary value), a category (high, medium or low) or a description.
Conservation	The political/social/economic process by which the environment is protected and resources are used wisely.
Conservation Area	A conservation area is a tract of land that has been awarded protected status in order to ensure that natural features, cultural heritage or biota are safeguarded. A conservation area may be a nature reserve, a park, a land reclamation project, or other area.
Convergence Programme	The West Wales and the Valleys region has been awarded the highest level of support known as Convergence, from the European Union for the Structural Funds programming round 2007–2013. Convergence, the successor to the Objective 1 programme 2000-2006, covers 15 local authority areas in the West Wales and the Valleys region. The Convergence programmes for West Wales and the Valleys comprise funding from two separate European Structural Funds: the European Regional Development Fund (ERDF) and the European Social Fund (ESF). Around £1 billion of ERDF funds will help progress the region's transformation into a sustainable and competitive economy by investing in the knowledge economy and helping new and existing businesses to grow. It will also focus on regenerating Wales' most deprived communities, tackling climate change and improving transport. Over £690 million from the ESF will be used to tackle economic inactivity, increase skills and employment. Together, with match funding, Convergence will drive a total investment of £3.5 billion in West Wales and the Valleys (wefo.wales.gov.uk)

Term	Definition
Coriolis effect	Effect whereby any moving body, for example, ocean currents, is deflected sideways due to the earth's rotation. In the Northern Hemisphere the deflection is to the right of the movement.
Countryside Council for Wales (CCW)	Statutory advisor to government on the environment and coastal waters as sources of natural and cultural riches, as a foundation for economic and social activity, and as a place for leisure and learning opportunities.
County Character Area	Areas with attractive landscapes of countywide significance.
Defra	Department for Environment, Food and Rural Affairs. Defra was established in 2001 with responsibilities including flood defence and wildlife conservation in England. Defra retains the lead role for Integrated Coastal Zone Management, the sustainable management of coastal waters and for new legislation such as the Flood and Water Bill and Marine Bill. It is the Government Department responsible for setting out what the SMP2 should do and look like.
Defra SMP Guidance	Guidance produced by Defra in 2006 to ensure a consistent approach is taken to producing the Shoreline Management Plan 2s.
Delta	A landform created at the mouth of a river composed of river-derived sediments. They are created by the deposition of sediments carried in the river as it flows out into the sea and is no longer constrained by the river channel, leading to a decrease in flow and subsequent deposition of material.
Deposition	Process by which sediment is added to a landform.
Designated Sites	These are areas identified or mapped out to enhance the conservation and protection of habitats. A habitat is a place inhabited by animals, insects, plants or other living organisms.
Diffraction	The change in direction of wave propagation as affected by the presence of obstacles (eg. sea walls or islands). As the waves pass the obstacle the wave crests bend as the wave moves into the shadow of the obstacle.
Discounting	The conversion of all future costs and benefits into comparable units (present value).
Dissipation	The loss of wave energy, with consequent decrease in wave height, due to wave breaking, turbulence, and viscous effects, and, in shallow water, due to the effects of bottom friction.
Downdrift	In the typical direction of sediment transport.
Dredging	Excavation, digging, scraping, drag-lining, suction dredging to remove sand, silt, rock or other underwater sea-bottom material.
Drift-aligned	Beach that has become aligned parallel to the line of longshore drift. This is normally at an angle of 40-50° to the direction of wave approach.
EC Directive	Legislation issued by the European Union that is binding on Member States in terms of the result to be achieved, but leaves choice as to methods.

Term	Definition
Earth heritage	A term which describes landscapes identified as important for their fossils, minerals or other geological interest.
Ebb-tide	The falling tide. Part of the tidal cycle between high water and the next low water.
Ecology	The study of the relationship between an organism and its environment.
Economic appraisal	An appraisal that takes account of a wide range of costs and benefits, generally those that can be valued in monetary terms.
Economic justification	Economic justification assesses whether the whole life costs of coastal erosion and flood risk management can be justified by the financial value of the residential, commercial and agricultural assets they are protecting.
Elected members	Representatives, elected from each of the local and district authorities, chosen to be representatives of the SMP due their technical experience and local knowledge.
Elected Members Forum (EMF)	Meetings attended by Elected Members to give them opportunities to inform and comment on the development of the SMP2.
Embankment	A man-made ridge of earth or stone that carried a road or railway, confines a waterway or provides a coastal erosion or flood risk management function.
Environment	This term covers landscape and natural beauty, wildlife, habitats and buildings, sites and objects of archaeological, architectural or historical interest.
Environment Agency Wales (EAW)	A WAG sponsored public body with responsibility to protect and enhance the environment and contribute to sustainable development. The Environment Agency Wales is the principal operating authority with powers to reduce the risks from tidal flooding by building and maintaining defences and other management measures, advising on coastal developments, providing flood forecasting and warning and improving public awareness of flood risk. The Environment Agency Wales also has a general supervisory duty in all matters relating to flood defence.
Environmental Appraisal	The process whereby the environmental effects of a development proposal are identified, measured and assessed to determine their significance.
Environmental Impact Assessment (EIA)	Detailed studies which predict the effects of a project on the environment, and includes plans for dealing with any adverse impacts. It is the specified process for undertaking the environmental appraisal when a proposed scheme is covered by the Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999 or other Regulations implementing EC Directive 85/337, and the amending EC Directive 97/11.
Environmentally Sensitive Area (ESA)	An area where Defra can provide payment to encourage farming practices which are beneficial to the environment and to protect it because of its landscape, wildlife or historical value.

Term	Definition
Epoch	A period of time. Used in the SMP to refer to the three time periods considered in developing policies: short term (0 to 20 years), medium term (20 to 50 years) and long term (50 to 100 years). A unit of geological time.
Equilibrium	State of balance.
Erosion	The loss of land due to the effects of waves and, in the case of coastal cliffs, slope processes (such as high groundwater levels). This may include cliff instability, where coastal processes result in landslides or rock falls.
Estuary	A partially enclosed area of water and tidal shore and its surroundings where there is a daily interchange of saline water from the sea and freshwater from rivers, land run-off or seepage.
EU Directive	A type of legislation issued by the European Union which obliges Member States to achieve specified results but which leaves Member States to determine the method of implementation nationally.
European Site	Any site that has been officially named ('designated') as a site of international nature conservation importance, either as a special protection area (SPA), a special area of conservation (SAC) or a Ramsar site.
European Union	The European Union is an economic and political partnership between 27 democratic European countries. It has increasing influence over management of the coastal zone through legislation, directives such as the Water Framework Directive and Marine Strategy Directive and supporting programmes including the European Regional Development Fund Convergence Programme 2007-2013.
Favourable conservation status	A range of conditions for a natural habitat or species at which the sum of the influences acting upon that habitat or species are not adversely affecting its distribution, abundance, structure or function throughout the EU in the long term (ie. the condition in which the habitat or species is capable of sustaining itself on a long term basis).
Fault	A fault is a crack or fissure in the rock caused by movements in the earth's crust.
Flood cell	The total area at risk of flooding in any location.
Flood defence	A structure (or system of structures) which reduces the risk or extent of flooding from rivers, estuaries or the sea.
Flood resilience	Designing an asset, or adapting an existing asset, so that although it comes into contact with floodwater during floods, no permanent damage is caused, structural integrity is maintained and, if operational disruption does occur, normal operation can resume rapidly after a flood has receded.
Flood resistance	Designing an asset, or adapting an existing asset, so that floodwater is excluded during flood events and normal operation can continue with no disruption occurring to essential services.

Term	Definition
Flood and Water Management Act 2010	Provides for better, more comprehensive management of flood risk for people, homes and businesses, helps safeguard community groups from unaffordable rises in surface water drainage charges and protects water supplies to the consumer. The Act implements Sir Michael Pitt's recommendations requiring urgent legislation, following his review of the 2007 floods. Serious flooding can happen any time. Climate projections suggest extreme weather will happen more frequently in the future. This Act is central to reducing the flood risk associated with extreme weather. The Act will need to be commenced by ministerial order before it comes into effect; however, it is important to recognize many of the authorities who will have new duties and powers under the Act are already getting on with managing flood risk (www.defra.gov.uk)
Flood Risk Management Wales	The working title of the revamped Welsh Regional Flood Defence Committee. A committee of the Environment Agency Wales' executive arm for flood risk management in Wales which is responsible for managing the Environment Agency Wales' budget for flood risk management in accordance with agreed priorities. The committee has no jurisdiction over local authorities and their coast protection activities.
Flood storage	Storing flood water in one area to reduce water levels elsewhere.
Flood tide	Rising tide, part of the tidal cycle between low water and the next high water.
Flood warning	The process of alerting people in vulnerable areas to the risk of flooding.
Fluvial	Belonging to rivers, streams or ponds, e.g. fluvial flooding, fluvial plants.
Freshwater Body (FWB)	See Water body.
Futurecoast	A study, commissioned by Defra and WAG, which provided consistent information on coastal processes and possible future development of the coast for the whole of England and Wales.
Foreshore	Zone between the high water and low water marks, also known as the inter-tidal zone.
Gabions	A type of defence constructed from a steel or wire-mesh basket filled with stones or loose rubble to provide protection to a slope or bank.
Geographic Information System (GIS)	A computer system for storage, retrieval, mapping and analysis of geographical data.
Geological Conservation Review Site (GCR)	Sites of national and international importance for their geology.
Geomorphology/ Morphology	The study of landforms on the earth's surface and processes of land forming and evolution.
Groundwater Body (GWB)	See Water body.

Term	Definition
Groyne	A structure built into the sea from the shore to reduce longshore drift and trap and retain beach material.
Habitat	The characteristic dwelling place of a species or community.
Habitat creation	The creation of new ecosystems (such as saltmarsh) in areas that did not previously support that system.
Habitats Directive	The abbreviated term for the European Council Directive 92.43/EEC of 21 May 1992 on the 'Conservation of Natural Habitats and of Wild Fauna and Flora'. It is the aim of this Directive to promote the conservation of certain habitats and species within the EU.
Habitats Regulations	The Conservation (Natural Habitats & c.) Regulations 1994. This makes the Habitats Directive into UK law.
Habitats Regulations Assessment	Must be undertaken in respect of any plan or project which, either alone or in combination with other plans or projects, would be likely to have a significant effect on a European site, and is not directly connected with or necessary for the management of the site for nature conservation. The purpose is to determine whether proposals would adversely affect the integrity of the European site in regard to the habitats and species for which the site is designated. Also known as Appropriate Assessment.
Hazard	A situation with the potential to result in harm, a hazard does not necessarily lead to harm.
Heavily Modified Water Body (HMWB)	A Heavily Modified Water Body is an existing body of water that has had its original appearance significantly changed to suit a specific purpose. For example, a river water body that has undergone extensive re-alignment for navigation, or a flood defended coastline.
Highest astronomical tide (HAT)	The highest level that can be expected to occur under average meteorological conditions and under any combination of astronomical conditions. HAT is not an extreme level, since certain meteorological conditions can cause a higher level. The level under these circumstances is known as a 'storm surge'. HAT is determined by inspecting predicted sea levels over a number of years.
Heritage Coast	Heritage Coast is a national definition to cover the most unspoilt areas of undeveloped coastline around England and Wales. Heritage Coasts were designated to protect coastline of special scenic and environmental value from undesirable development.
Heritage features	Features of historical importance.
High Water Mark (HWM)	The highest reach of the water at high tide. It can sometimes be recognised by a line of debris, e.g. seaweed, pieces of wood.
Hinterland	The area landward of flood or coastal defences.

Term	Definition
Hold the line (HTL)	An SMP2 policy option. Maintaining or changing the standard of protection. This policy includes scenarios where work or operations are carried out seaward of the existing defences (such as beach recharge, rebuilding the toe of a structure or building offshore breakwaters) to improve, maintain or change the standard of protection provided by the existing defence line. This policy also includes operations landward of the existing defences (such as the construction of secondary flood walls) where they form an essential part of maintaining the current coastal defence system.
Holocene	The current period of geological time, being the second in the Quaternary period. It extends from around 11,000 years ago to the present, and has been characterised by interglacial conditions (i.e. between glacial periods) with climatic fluctuations. It is also known as the postglacial.
Imperative Reasons of Overriding Public Interest (IROPI)	Defra provides information and guiding principles on imperative reasons of overriding public interest (IROPI). The Habitat Regulations require the relevant authorities to establish that there are no alternative solutions before a plan or project can be approved for IROPI. Authorities should consider whether there are likely to be suitable and available sites which are reasonable alternatives for the development or different practicable approaches which would have a lesser impact.
Infrastructure	The basic facilities and equipment for the functioning of the country or area, such as roads, rail lines, pipelines and power lines.
Insurance industry	The insurance industry has an important role as a stakeholder with respect to their decisions to maintain or to withdraw insurance cover, as the new risk management approach to coastal erosion and flooding develops.
Integrated Coastal Zone Management (ICZM)	Integrated Coastal Zone Management. The adoption of an integrated or joined up approach towards the many different interests in both the land and marine components of the coast. It is the process of harmonising the different policies and decision making structures, to encourage concerted action towards achieving specific goals. SMPs are a vital component of this process.
Internal Drainage Boards	Independent bodies responsible for land drainage in areas of special drainage need, generally very low-lying land that requires active management of water levels.
International environmental designations	Any site that has been officially named ('designated') as a site of international nature conservation importance, either as a special protection area (SPA), a special area of conservation (SAC) or a Ramsar (see the glossary) site.
Intertidal	The area of land covered by water at high tide but exposed at low tide.
Intertidal habitat	Habitat between mean low water mark and mean high water mark.
Intertidal zone	The area of the seabed exposed between the highest and lowest levels of the tide.

Term	Definition
Inundation	An overflow of water or an expanse of water submerging land.
Key stakeholder	A person or organisation with a major interest in the preparation of, and outcomes from, a shoreline management plan. This includes agencies, authorities, organisations and private bodies with responsibilities or ownerships that affect the overall management of the shoreline in a plan.
Key Stakeholders Forum	Meetings for stakeholders to help them get involved in producing the shoreline management plan. Key Stakeholder Forums were and will be held at key stages of developing the SMP.
Lake water body	See Water body
Land reclamation	Process of creating new, dry land by excluding the sea from part or all of the intertidal area. Also known as land claim.
Lowest astronomical tide (LAT)	The lowest level that can be expected to occur under average meteorological conditions and under any combination of astronomical conditions. LAT is not an extreme level, since certain meteorological conditions can cause a lower level. The level under these circumstances is known as a 'negative storm surge'. LAT is determined by inspecting predicted sea levels over a number of years.
LiDAR	Light Detection and Ranging. An airborne mapping technique which uses a laser to measure the distance between the aircraft and the ground. This technique results in the production of a cost-effective terrain map suitable for assessing flood risk.
Littoral cell	See sediment cell.
Local Landscape Areas (LLA)	An area that is important to the appearance and environment of the local area. These areas are promoted in Local Development Frameworks and set by Local Authorities.
Local (Maritime) Authorities	Local (Maritime) Authorities have permissive powers to reduce the risk of coastal erosion or encroachment from the sea by providing coast protection features such as defences. They also regulate planning and development control and promote economic development, coastal tourism and coastal management. Local authorities have a duty of community leadership and are the democratic bodies that have the lead responsibility for community engagement on coastal issues. They lead local and regional resilience forums in co-ordinating emergency plans, advising on risk and, with the emergency services, lead the response during flooding incidents. Local authorities deal with consequences of flooding such as support to affected communities, emergency housing and managing the clear-up operations and recovery stage.
Local Nature Reserves (LNR)	Sites of local significance which provide important opportunities for public enjoyment, recreation and interpretation. These are set by Local Authorities in consultation with Natural England.
Longshore current	A movement of water along the shore, caused by waves and tides.

Term	Definition
Longshore transport	Movement of material along the shore, approximately parallel to the shoreline. Also known as longshore drift or alongshore drift.
Low Water Mark (LWM)	The lowest reach of the water at low tide.
Maintenance	Activities to keep coastal defence structures such as embankments, revetments, seawalls and gates, in a defined operational state, and in keeping the hydraulic performance of watercourses within defined limits. It does not refer to improvements to such works to maintain the same level of protection against a new or increased risk.
Managed realignment	An SMP2 policy option. Allowing the shoreline to move backwards or forwards, with management to control or limit movement (such as reducing erosion or building new defences on the landward side of the original defences). Managed realignment has been assigned to all dune areas since it is not sustainable to artificially fix a line of dunes.
Management scenario	The plan and outcome that future management will aim to achieve.
Material assets	Properties, equipment or items to which a value can be assigned.
Mean High Water (MHW)	The average of all high waters recorded over a long period.
Mean High Water Springs (MHWS)	The average height of the high waters of spring tides recorded over a long period.
Mean Low Water (MLW)	The average of all low waters recorded over a long period.
Mean Low Water Springs (MLWS)	The average height of the low waters of spring tides recorded over a long period.
Mean sea level (MSL)	Average height of the sea surface over a period long enough to eliminate short-term effects of waves and tides.
Medieval	Relating to the time period from AD 1066 to 1540.
mODN	Height in metres above Ordnance Datum Newlyn or mean sea level.
Ministry of Defence (MoD)	MOD's main responsibilities and organisations are as follows: <ul style="list-style-type: none"> • Air Safety and Aviation Information on air safety and aviation and the MOD organisations involved in these activities • Defence Estate and Environment Information on how MOD manages the Defence Estate and its commitments to environmental protection • Doctrine Operations and Diplomacy How MOD manages its operational commitments throughout the world and its contribution to international diplomacy • Equipment and Logistics Information on military equipment and how MOD agencies ensure quality, quantity and readiness for operations.
Monitoring	Systematic recording over time.

Term	Definition
Multi-Criteria Analysis (MCA)	Option appraisal which takes into account both monetarised and non-monetarised impacts.
National Flood and Coastal Erosion Risk Management Strategy for Wales	A National Flood and Coastal Erosion Risk Management Strategy for Wales is required under the Flood and Water Management Act 2010. It will describe what needs to be done by all involved in flood and coastal risk management (Environment Agency, Local Authorities, Internal Drainage Boards, water and sewage companies and highways authorities) to reduce the risk of flooding and coastal erosion, and to manage its consequences. The Welsh Assembly Government (WAG) is developing a National Flood and Coastal Risk Management Strategy for Wales with support from the Environment Agency Wales. Consultation on the draft strategy was undertaken between July 2010 and October 2010. The consultation document proposes that the strategy will set out the long-term objectives and how these will be achieved. It should guide the production of local strategies, which will in turn deliver the improvements that are needed to help the communities who are at greatest risk. It should also aim to encourage more effective risk management by enabling people, communities, business and the public sector to work together to: ensure a clear understanding of the risks of flooding and erosion, nationally and locally, so that investment in risk management can be prioritised more effectively; set out clear and consistent plans for risk management so that communities and businesses can make informed decisions about the management of the remaining risk; encourage innovative management of flood and coastal erosion risks taking account of the needs of communities and the environment; ensure that emergency responses to flood incidents are effective and that communities are able to respond properly to flood warnings; help communities to recover more quickly and effectively after an incident. The strategy should also set out possible approaches to local community involvement in risk management, co-ordinated planning and sustainability. It will also emphasise the need to balance national and local activities and funding (www.environment-agency.gov.uk).
National environmental designations	Areas identified as nationally special sites for the wildlife and habitats.
National Nature Reserve (NNR)	Nationally important natural and semi-natural area which are managed for the benefit of their natural features. These areas are set by Countryside Council for Wales.
National park authorities	Coastal national park authorities have planning, development control and coastal management responsibilities in partnership with local authorities.
National Trust	The National Trust work to preserve and protect the buildings, countryside and coastline of England, Wales and Northern Ireland, in a range of ways, through practical conservation, learning and discovery, and encouraging everyone to visit and enjoy their national heritage. The National Trust manages and has stewardship of many heritage assets and 230km of coastline.

Term	Definition
Natura 2000	The EU-wide network of SPA and SAC nature conservation sites, also referred to as European Sites.
Natural	Encompasses both the small number of natural areas and the much greater number of semi-natural areas of Britain, which have been influenced by man over the years. It is also applied to those processes over which man has no significant control, eg. wind, waves, sediment transport, etc.
No Active Intervention (NAI)	An SMP2 policy option. No investment in coastal defences or operations. Existing defences will not be maintained and will fail over time. undefended shores will be allowed to evolve naturally.
Normal tidal limit (NTL)	The point at which a stream or river is no longer affected by tidal flow. The definition of this point is important since various bodies may be responsible for coastal protection work up to the NTL.
Objective	A desired goal to be achieved in the future.
Operating authority	An organisation with legal powers to carry out coastal erosion or flood risk management activities, usually the maritime local authority or Environment Agency Wales.
Ordnance Datum Newlyn (ODN)	The universal zero point used in the UK (equal to the mean sea level at Newlyn in Cornwall) from which the height of the land is measured.
Outflanking	Coastal erosion adjacent to a defence which has the potential to compromise its defence function.
Overtopping	Water carried over the top of a coastal defence due to wave run up exceeding the crest height of the structure.
Physical processes	Coastal phenomena such as sediment transport, erosion and accretion responsible for shaping the coast and underpinning its dynamic qualities.
Pill	Tidal inlet along the coast, or a small creek of a river.

Term	Definition
Pitt review	The Pitt review was commissioned by the UK government and conducted by Sir Michael Pitt. Although the Pitt review was specifically targeting England following the flooding emergency which took place in summer 2007, Wales is equally vulnerable to such flooding. Sir Michael Pitt's final report entitled The Pitt Review: Lessons learned from the 2007 floods, was published on 25 June 2008. The report was written at the end of a year long inquiry which examined the emergency response to the flooding and investigated how the risk and impact of floods can be reduced in the future. It is a comprehensive report which has sought views from those involved in the floods, including affected residents, the emergency services, business and professional associations. One of the more significant conclusions is the need to update and streamline existing law about flood and coastal risk and its management. The current legislation stems from the 1930s. There is a need for it to be updated to: take account of all sources of flooding; to clarify roles and responsibilities; and to facilitate a move to a risk management approach to flood and coastal matters, as outlined in the Welsh Assembly Government's Environment Strategy. Taking forward various recommendations in the Pitt review will contribute to improving preparedness and resilience to flooding in Wales. The Welsh Assembly Government will also use existing Programmes such as the New Approaches programme to develop actions to implement the recommendations (wales.gov.uk).
Pluvial	'Produced by rain', e.g. surface water flooding.
Pocket beach	A small beach, contained within two headlands. Pocket beaches are generally self-contained in terms of sediment transport.
Policy	In this context, "policy" refers to the generic shoreline management options (No Active Intervention, Hold the Existing Line of Defence, Managed Realignment and Advance the Existing Line of Defence).
Policy Scenario Area	Length of coast which interact in terms of coastal processes, has similar key issues, or land uses, or for which the management objectives are broadly the same.
Policy Statement	A document stating and describing the proposed management policy to be adopted in a particular time period, and the likely implications on the human and natural environment.
Policy Unit	Length of shoreline with similar characteristics in terms of coastal processes and assets at risk that can be managed efficiently.
Pollution	The addition of materials or energy into the existing environmental system to the extent that undesirable changes are produced directly or indirectly in that system.
Precautionary principle	An approach which takes avoiding action based on the possibility of significant environmental or other damage, even before there is conclusive evidence that the damage will occur.
Preferred options or Preferred policy	The preferred options for managing the shoreline based on assessment of the issues, objectives and the impacts.

Term	Definition
Present Value (PV)	The value of a stream of benefits or costs when discounted back to the present day. For this SMP the discount factors used are the latest provided by Defra for assessment of schemes, i.e. 3.5% for years 0 to 30, 3.0% for years 31 to 75, and 2.5% thereafter.
Primary defence	The main line of defence, usually the most seaward if several defence structures are present.
Primary policy drivers	Key issue which results in a certain policy being chosen.
Private sector landowners	Private sector landowners and property developers may undertake coastal erosion or flood risk management having obtained the necessary consents, licences and approvals.
Progradation	Extension of shoreline features into the sea through deposition.
Public sector landowners	There are many public sector landowners that may undertake coastal erosion or flood risk management having obtained the necessary consents, licences and approvals.
Qualitative Methods	Using a written or verbal description instead of numbers to inform assessment and decision making.
Qinetiq	QinetiQ is a leading international provider of technology-based services and solutions to the defence, security and related markets. We work with government organisations, predominantly in the UK and US, including defence departments, intelligence services and security agencies. In addition, we provide technology insertion and consultancy services to commercial and industrial customers around the world.
Raised beach	An emerged shoreline, raised above the current shoreline position, represented by stranded beach deposits and wave cut platforms. Raised beaches may be caused by falling sea levels or rising land levels.
Ramsar site	Wetland site of international importance that is designated under 'The Convention on Wetlands of International Importance 1971', a convention to which Britain and 41 other countries (as of July 1987) are signatories. The convention seeks to protect internationally important wetlands, primarily because of their importance for waterfowl.
Recession	Backward movement, or retreat, of a feature; in this context a shoreline or beach.
Reclamation	Process of creating new land from the sea, generally through building of new defences seaward of the existing shoreline and draining the intervening area.
Refraction	The process by which the direction of a wave moving into shallow water changes such that the wave crests become more aligned to the contours of the seabed.
Regionally Important Geodiversity Site (RIGS)	Sites which are regionally important for their geological or geomorphological form.

Term	Definition
Relic	An area which is not fed and built up by new sediment.
Relict	Something that has survived after a destructive process has happened. This can include structures or geological formations.
Residents	Those living in coastal areas should become more aware of the current and future risks from coastal erosion and/ or flooding and take precautions to protect themselves and their property. Residents should also become involved in the decisions that affect their communities and any necessary actions.
Residual Flood Risk	The risk which remains after managing and reducing risks. It may include, for example, risk due to very severe storms or risks from unexpected hazards.
Residual life	The time until when a defence is no longer able to achieve minimum 'acceptable performance'.
Residual risk	The risk which remains after managing and reducing risks. It may include, for example, risk due to very severe storms or risks from unexpected hazards.
Return Period	The frequency of recurrence of a meteorological event, or flood event, of a similar magnitude can be specified by its return period (TR), defined as the period that, on average, separates two occurrences. For example a 100-year flood will occur on average once in every 100 years. It should be noted that this does not mean that exactly TR will separate two such occurrences. For an event with a return period of 100 years there is a 1% annual probability of occurrence, even the one following a previous occurrence, and approximately an 18% probability in a 20 year period. For a time interval equal to the return period there is a 63% probability of occurrence within the return period.
Revetment	A coastal defence comprising a cladding of stone, concrete or other material on a sloping surface, which is used to stabilise and protect natural shorelines, embankments or other structures against erosion by wave action or currents.
Ria	A sea inlet formed by flooding of a river valley, either due to rising sea levels or falling land levels.
Risk	A combination of both the likelihood and consequences of an event.
Risk assessment	Consideration of risks to people and the development, historic and natural environment, leading to the development of an action to control them.
Risk management	The activity of managing, mitigating and monitoring risks.
River Basin District (RBD)	A river basin, or several geographically-linked river basins, and adjacent coastal waters identified as the scale for strategic planning and reporting to the European Commission for the Water Framework Directive.
River Basin Management Plan (RBMP)	A plan that must be produced for each River basin District within an EU Member State in accordance with Article 13 of the Water Framework Directive.

Term	Definition
River water body	See Water body.
Roll-back	The process whereby coastal habitats move landward in response to rising sea levels.
Sand bank	A submerged ridge or bank of sand in the sea which may be exposed at low tide.
Sand wave	Regular wave-like patterns in submerged sand caused by movement of tidal currents.
Scar	A rock outcrop or an accumulation of coarse sediment such as pebbles, cobbles and boulders which are raised above the level of the surrounding mobile beach material, but which may be frequently covered or scoured.
Schedule IV	Part of the Coast Protection Act 1949 which says waters excluded for purposes of definitions of 'sea' and 'seashore'; that is the upstream limit in estuaries and rivers.
Scheme	A scheme usually relates to the implementation of works on the ground, normally identified as a consequence of a broad-based investigation with quite specific objectives. Stages of scheme development may include pre-feasibility studies, detailed appraisal and construction.
Schedule IV	Part of the Coast Protection Act 1949 which defines the extent of the 'sea' and 'seashore', the upstream limit in estuaries and rivers.
Scheduled Monument (SM)	Building or other archaeological or historic feature of national importance protected under UK Ancient Monuments and Archaeological Areas legislation.
Scour	Sand and sediment being removed by waves or currents, especially at the base and ends of coastal defence structures.
Sea level rise	The rise of the height of the sea in relation to the land. This can be caused by global climate change, rising sea level (caused by thermal expansion of the oceans and to a lesser extent from melting of ice caps and glaciers) and changes in local land levels (due to isostatic movement, north-west Britain is rising following glacial withdrawal at the end of the last Ice Age, causing south-east England to sink).
Sea wall	A wall of embankment built to prevent encroachment or erosion by the sea, typically built parallel to the shoreline.
Secondary line of defence	Construction of a defence line inland of the existing defences which may continue to be maintained. These may be referred to as set back defences if they are landward of the primary defences.
Sediment	Particles derived from rock, minerals or bioclastic debris, covering a size range from clay to boulders.
Sediment budget	The balance between changes in sediment volume in a specified area, including gains, losses and sediment storage.

Term	Definition
Sediment cell	A length of coastline and its associated nearshore area within which the movement of coarse sediment (sand and shingle) is largely self-contained. Interruptions to the movement of sand and shingle within one cell should not affect beaches in a neighbouring sediment cell. A report was produced in 1994 defining sediment cells around the coast of England and Wales. (HR Wallingford, 1994).
Sediment sub-cell	A smaller part of a sediment cell within which the movement of coarse sediment (sand and shingle) is relatively self-contained.
Sediment sink	Location where beach material is permanently lost from a sediment cell, for example an estuary or deep channel on the seabed.
Sediment supply	Adding sediment to a beach.
Sediment source	Location which is a source of fresh material, for example eroding cliffs or a river mouth.
Sensitivity Analysis	Changing the key things that have been assumed about the plan, or different data and information in the plan to see the potential effect of these changes on the suggested option.
Shoreline	The interface between the land and sea. This can vary depending on when the shoreline is measured, e.g. high water shoreline.
Shoreline Management Plan (SMP)	Plans developed by Coastal Groups covering a stretch of coastline which addresses factors such as the geological structure of the coast, the natural processes which influence it, the land use in the area, development plans and the flood and erosion risks along the coast. The SMP proposes high level policies for future coastal erosion and flood risk management. SMPs are subject to periodic review.
Shoreline Management Plan 1 (SMP1)	First generation SMPs were produced along the South Wales coast in 2000/ 2001, to define high level coastal erosion and flood risk management policies for the next 50 years.
Shoreline Management Plan 2 (SMP2)	Second generation SMPs have reviewed SMP1s and taken account of the following changes since SMP1s were completed: <ul style="list-style-type: none"> - WAG New Approaches Programme, which has adopted a more sustainable approach to coastal erosion and flood risk management; - Studies undertaken following the completion of SMP1s; - Latest guidance on future climate change (UKCP09); - Issues identified by recent defence planning; - Changes in environmental legislation; - The need to consider 100 year timescales with respect to future coastal erosion and flood risk management; - Results from Coastal Group monitoring.
Shoreline response	The way the boundary between the land and the sea changes due to varying coastal process and people's actions.

Term	Definition
Significant effect	An important effect – for example, if a plan or project is likely to affect a European site, you need to decide whether or not it would have a 'significant effect'. If there is any doubt you must consult Countryside Council for Wales. They will advise whether, in their view, the proposed scheme would be likely to have a significant effect on the habitat interests of the site.
Siltation	The build up of fine sediment in a body of water.
Sites of Special Scientific Interest (SSSI)	Site notified under the National Parks and Access to the Countryside Act, 1949 and subsequently under the Wildlife and Countryside Act, 1981. Land which is of special interest for its flora, fauna, geological or physiographic features may be notified as a SSSI. These sites are statutory designations and are set by CCW.
Site of Importance of Nature Conservation (SINC)	Areas of land of local importance for the conservation of semi-natural habitats including mosaics of heathland, unimproved grassland, scrubland and plantation and/or habitats which support rare local wildlife species.
Solifluction	Slow movement of material saturated with water from higher to lower ground.
Socio-economics	The study of the relationship between economic activity and social life.
Source Protection Zone (SPZ)	A zone showing the risk of contamination from any activities that might cause pollution of groundwater wells, boreholes or springs used for public drinking water supply.
Spatial planning	Spatial planning refers to the methods used to balance demands for development with the need to protect the environment, and to achieve social and economic objectives.
Special Area of Conservation (SAC)	A site of European importance designated by the Member States where the necessary conservation measures are applied for the maintenance or restoration, to a 'favourable conservation status', of the habitats and/ or species for which the site is designated. Site notified under the Habitats Regulations 1994, which implement the Habitats Directive, to protect important European habitats, especially those of threatened species. Form (together with Special Protection Areas) a pan-European Natura 2000 site series.
Special Landscape Area (SLA)	Areas which have a strategic landscape importance.
Special Protection Area (SPA)	A site designated under the Birds Directive by the Member States where appropriate steps are taken to protect the bird species for which the site is designated. Designated in accordance with the EEC 'Directive on the Conservation of Wild Birds' (EEC/79/409) for the specific protection of wild birds. Within the UK this designation is implemented through the SSSI notification system.
Spit	A build up of sand or stones deposited where a shoreline changes direction. These are formed by waves moving sand or stones along the shoreline to form a promontory jutting out from the coast.

Term	Definition
Stakeholder	A person or organisation with an interest in the preparation of, and outcomes from, the shoreline management plan. Stakeholders can include agencies, authorities, organisations, individuals and private bodies.
Standard of protection (SoP)	The level of defences required to provide the necessary protection for a particular return period event.
Standard of service	The adequacy of defence measured in terms of the return period (years) of the event which causes a critical condition (e.g. breaching, overtopping) to be reached.
Storm surge	Temporary increase in sea level resulting from extreme weather events.
Strategic	Describes the carrying out of any process in a wide-ranging way, taking account of all associated effects, interests of other people and the widest possible options for solving a problem.
Strategic Environmental Assessment (SEA)	The system of incorporating environmental considerations into policies, plans and programmes in line with European Union policy. A set of guidelines/procedures for SEA has been produced to ensure that duties are discharged under the European Community Directive on 'the assessment of the effects of certain plans and programmes on the environment' (2001/42/EC), which introduced statutory SEA into the UK from the 21 July 2004. The directive was implemented by secondary legislation for England and Wales. The relevant English and Welsh regulations are 'The Environmental Assessment of Plans and Programmes Regulations 2004 (SI 2004 1633 for England and SI 2004 1656 for Wales)'.
Strategy Studies	A long term plan, also known as a coastal erosion and flood risk management strategy, which considers a broad range of issues.
Sustainable development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. To avoid tying future generations into inflexible and/or expensive options for flood and coastal erosion risk management. Capable of being maintained at a steady level without exhausting natural resources or causing severe ecological damage.
Swash	Water moving up the beach from a breaking wave.
Swash-aligned	Beach which is parallel to the front of the on-coming waves, i.e. the beach is facing the approaching waves.
Swell wave	Remotely wind-generated waves.
Syncline	A fold in rocks in which layers on both sides dip towards the centre.
Talus cone	A sloping accumulation of pieces of rock at the base of a cliff.
Technical Advice Notes (TANs)	Current land use planning policy in Wales is contained in Planning Policy Wales (WAG, 2002) which provides the strategic policy framework for the effective preparation of local planning authorities' development plans. These are supported by 20 topic-based technical advice notes (TANs).
Tidal current	The direction that the sea moves when influenced by the rise and fall of the tide.

Term	Definition
Tidal energy impoundment lagoon	The lagoon formed behind a barrage or barrier used to create tidal energy.
Tidal limit	Maximum upstream limit of tidal flow in a river or estuary.
Tidal power embayments and barrages	Tidal power barrages and embayments trap the falling tide in tidal energy impoundment lagoons to release it in a controlled manner through turbines to create electricity.
Tidal prism	The amount of water in the estuary between the level of high and low tide.
Tide	The rise and fall of the sea caused by the gravitational pull of the moon and sun on the earth.
Toe protection	Putting boulders or other large materials at the bottom of coastal defences to stop waves from removing the material that the defence sits on.
Topography	The shape of the earth's surface including land levels and the position of natural and man-made features.
TraC water body	See Water body
Training (river)	Confining of the flow of a river channel through the construction of training walls.
Training walls	Structures built to confine the flow of a river channel.
Transgression	The landward movement of the shoreline in response to a rise in relative sea level.
Transitional water body	See Water body.
Transparent and auditable	This means that the process is open so that people can see what the process involves and understand why a decision has been made.
Unconstrained scenario	This is a hypothetical scenario for beach management, from the Futurecoast study, which assumes instantaneous total removal and discontinuation of present anthropogenic intervention throughout the entire shoreline of England and Wales.
Updrift	The opposite direction to the main movement of beach materials along the shore.
Visual amenity	The pleasant or desirable appearance of an area or feature.
Water body	A defined extent of natural water as identified in a River Basin Management Plan prepared under the Water Framework Directive. Includes: <ul style="list-style-type: none"> - surface freshwater bodies - including "lake water bodies" and "river water bodies" - groundwater bodies - estuaries, "transitional water bodies" - coastal waters out to one mile from low-water – "coastal water bodies" Transitional and coastal waters are collectively referred to as "TraC water bodies"

Term	Definition
Water Framework Directive (WFD)	EC Water Framework Directive 2000/60/EC sets out a system for the integrated and sustainable management of river basins (which cover all inland and coastal waters) so that the ecological quality of waters is maintained in at least a good state or is restored. The Directive lays down a six-yearly cycle of river basin planning. The Directive sets a framework which should provide substantial benefits for managing water over the long term.
Wave direction	Direction from which a wave approaches.
Welsh Assembly Government (WAG)	WAG has national policy responsibility for: flood and coastal risk management; nature and heritage conservation; sustainable economic and community development; and setting the national planning policy framework for the coast. WAG provides funding, through grant-in-aid, to the Environment Agency Wales and administers grants for capital projects to local authorities and internal drainage boards. WAG does not build or manage flood defences nor direct the authorities on which specific projects to undertake.
Wetlands	Low-lying areas of land that are often flooded and are home to plants that thrive in saturated soils.
With Present Management (WPM)	A baseline scenario which assumes that present management practices continue until technically impossible (for example, if existing defences fail), or when current practice becomes ineffective, with identification of where maintenance or improvements may be required (for example to cope with rising sea levels).