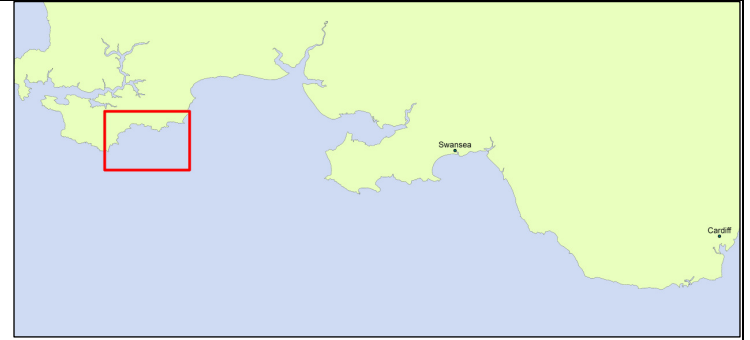


Giltar Point to St Govan's Head (17)



Recommendations:

Long Term Plan

The coastline between Giltar Point and St Govan's Head is largely undeveloped, characterised by rocky cliffs fronted by narrow rocky platforms with a series of indented sheltered embayments, or pocket beaches, within which sediment tends to accumulate. In places, these beaches are backed by dunes, such as at Freshwater East, Barafundle Bay and Stackpole Warren. Much of the landscape is designated for the cliff and dune habitats. Stackpole Warren is a national nature reserve as well as SSSI for its biological diversity, which includes the dune system, where dunes overly a rock platform and the man-made freshwater ponds at Bosherton which support nationally important species.

This area is a popular tourist destination, with visitors attracted by the rugged landscape and the numerous sandy beaches. The area is part of the Pembrokeshire Coast National Park and the Pembrokeshire Coast Path runs along the cliffs throughout. There are a number of small resorts and caravan parks, typically situated within the embayments, at Lydstep, Manorbier and Freshwater East.

The frontage is renowned for its heritage landscape, included within the South Pembrokeshire Heritage Coast. Both Manorbier and the prehistoric landscape of Stackpole Warren are designated Registered Landscapes of Outstanding Historic Interest in Wales.

The plan is to allow the coastline to evolve naturally to maintain geological, ecological and landscape value.

There are few defences along this coastline, with the main exception being Lydstep Haven, where the coastal strip has been developed as a holiday resort. Although the current defences are unlikely to be having a wider influence on coastal evolution, it is not likely that continued defence of this private frontage would attract public coastal erosion and risk management funding. Therefore, unless alternative funds are available, the long term plan would be to abandon defences, once they are no longer viable. Existing defences could be maintained/ upgraded through private funding, subject to obtaining the necessary consents, licences and approvals.

Location (Policy Unit)		Preferred SMP2 policy and proposed approach to implementing the Plan		
		0-20 years	20-50 years	50-100 years
17.1	Giltar Point to Lydstep Haven (north)	This is a mainly undeveloped coastline, renowned for its natural beauty and landscape features, and the policy is to allow the shoreline to naturally evolve and retreat along this frontage through no active intervention to conserve these assets.		
17.2	Lydstep Haven	It is not likely that continuing to reduce the risk of coastal erosion and flooding of this private frontage, comprising Lydstep Haven holiday village, would attract public funding. The short term policy is to hold the line by maintaining existing defences for as long as possible. This could enable alternative adaptation options to be considered, developed and implemented at the site such as the relocation of the holiday village assets.	Unless alternative funds are available, the policy will change to no active intervention , once defences are no longer viable. This would allow the coast to respond naturally.	Private funding could be used to maintain/ upgrade existing defences in the medium and long term, subject to obtaining necessary consents, licences and approvals. However, extension of these defences would not be permitted in order to conserve the conservation interest within the Bay.
17.3	Lydstep Point to Freshwater East (east)	Allow the shoreline to naturally evolve and retreat along this frontage through no active intervention , to maintain natural landscape and environmental value.		
17.4	Freshwater East	Managed realignment to enable the dune system to function naturally, whilst allowing dune management, habitat management or to control recreational pressures, to be undertaken as required. This policy would not preclude maintenance of the isolated stretch of defences at the western end of the frontage, if alternative funds were available. However, any change in the defences would be subject to obtaining necessary consents, licences and approvals and may not be appropriate, given the SSSI and conservation interest within the Bay.		
17.5	Trewent Point to Broadhaven	Allow the shoreline to naturally evolve and retreat along this frontage through no active intervention , to maintain natural landscape and environmental value.		
17.6	Broadhaven to St Govan's Head	Allow the shoreline to naturally evolve and retreat along this frontage through no active intervention , to maintain natural landscape and environmental value.		

A review of the impacts of the preferred SMP2 policies on coastal evolution and behaviour is provided in Appendix E: Policy Development and Appraisal, Section E1.3.

Policy sensitivities and key uncertainties (further detail is included in Appendix K)

Policy units 17.1, 17.3, 17.4 - due to the resistant nature of the cliffs there is relatively high confidence in predicting very low rates of recession in future, even under a scenario of future climate change/ sea level rise. The beach and dune systems are, however, more sensitive to changes in forcing factors, such as wind-wave climate and storminess. There are also various dune management options which could be implemented, depending on how coastal managers wish the dunes, and the habitats they support, to develop in the future.

17.2 - the timing for a change in policy would depend upon when the defences fail and also the cost of continuing to maintain existing defences, this will enable alternative adaptation options to be considered, developed and implemented at the site such as the relocation of the holiday village assets. This will depend on both availability of public coastal erosion and flood risk management funds and private funding and the pressure put on defences, e.g. due to future climate change/ sea level rise, frequency and intensity of storms, or beach erosion.

17.5 - Stackpole Quay is not a coastal defence structure and has recently been refurbished; it would therefore be expected to remain for the SMP period, even if no further maintenance is undertaken. There is a risk of increased inundation at Stackpole Quay over time.

17.6 - localised dune management may need to be considered at Broad Haven, should the dunes become susceptible to erosion due to recreational activities. Bosherton Lakes are currently maintained artificially. Although the retaining wall is likely to remain, the risk of overtopping and saline intrusion into the lakes will increase in response to future sea level rise, creating a habitat of increasing salinity. The impact of this would need to

be monitored and managed as appropriate.

Changes from present management / SMP1 policy¹

The policies are broadly similar management policies to those recommended in SMP1 – there are slight differences in wording, but the intent is the same.
Allowing defences to fail at Lydstep would be a change from present management, however, the policy does not preclude the private landowner funding maintenance or upgrading of existing defences, subject to obtaining necessary consents, licences and approvals.

Giltar Point to St Govan's Head (17)

(this is a summary of impacts, for full details see **Appendix G SEA Report**)

Issue	Appraisal
Receptor: Property, population and human health	
This frontage is generally undeveloped, although there are small settlements at Lydstep, Manorbier, Freshwater East and Stackpole Quay. There are also a number of isolated properties. Most of the coast is undefended although there are localised defences at Lydstep Haven and Freshwater East.	
Will SMP policy maintain coastal settlements and manage the impact of coastal flood and erosion?	<ul style="list-style-type: none"> X No risk to Manorbier as the village is situated far enough inland and on rising ground. - In the short term, the existing defences at Lydstep Haven will continue to be maintained to reduce the risk of coastal erosion/flooding to the holiday park. It is not likely that continuing to reduce the risk of coastal erosion and flooding of this private frontage, comprising Lydstep Haven holiday village, would attract public funding in the medium/ long term. Therefore defences would no longer be maintained and be allowed to fail. This is likely to require set-back of the caravans and assets. However the future risk of coastal erosion/ flooding would be reduced by rising ground inshore. - At Freshwater East there will be risk of coastal erosion and flooding to a small number of residential properties, as localised defences are not maintained and sea level rises. - Continued risk of coastal flooding to properties at Stackpole Quay, which have previously suffered from flooding. Risk would increase in response to future sea level rise.
Will SMP policy directly increase the actual or potential coastal erosion or flood risk to communities?	<ul style="list-style-type: none"> - Typically this shoreline is undefended. There will, however, be an increased flood and erosion risk at Lydstep Haven and Freshwater East, following the deterioration and loss of existing defences. + The coast will be allowed to evolve naturally at Stackpole Quay, which is the current policy, and therefore there is no increase in risk. The Quay, which is not a coastal defence structure and therefore is not within the scope of the SMP, has recently been refurbished and would be expected to remain for the SMP period.
Is SMP policy sufficiently flexible to take account of dynamic coastal change?	+ The SMP policy recognises dynamic coastal change, with policies of no active intervention and managed realignment throughout, with the exception of continued maintenance of the existing defences in the short term at Lydstep Haven. However, once these fail, the shoreline would also be allowed to respond naturally.
Could there be a detrimental impact on the fabric of coastal communities?	<ul style="list-style-type: none"> X Along most of this shoreline, there will be no impact on coastal communities due to the undeveloped nature of the shoreline and the resistance of the bedrock. - The loss of defences at Lydstep Haven and Freshwater East are only likely to directly impact on a small number of properties along the coastal front, which are mainly caravans or holiday properties.
Receptor: Land use, infrastructure and material assets	
In addition to the coastal settlements of Lydstep, Manorbier, Freshwater East and Stackpole Quay, which are mainly tourist resorts with a number of associated caravan and camping sites, there is also the MoD Manorbier Air Defence Range and Camp located at Old Castle Head.	
Will SMP policy maintain key industrial, commercial and economic assets and manage the impact of coastal flooding and erosion?	- There will be potential loss of assets at Lydstep Haven, Freshwater East and Stackpole Quay.
Will the SMP policy ensure critical services and infrastructure remain operational, for as long as required?	<ul style="list-style-type: none"> X There is no major infrastructure along this section of coast. - Whilst defences remain at Lydstep Haven and Freshwater East, local services will be unaffected; however, from the medium term there would be an increased risk of flooding and erosion, as defences are allowed to fail. Many of these assets will, however, be lost at the same time as the properties they serve. - There is a potential risk to local access roads within the Lydstep Beach Holiday Park, and within Freshwater East. The SMP policy should allow sufficient time for alternative routes to be considered.
Will there be an impact on marine operations and activities?	+ Stackpole Quay is expected to remain for the SMP period. It is not a coastal defence structure, but has recently been refurbished.
Will SMP policy impact coastal flooding or erosion on agricultural activities?	- Risk of loss of small areas of cliff top agricultural land, although this would be dependent on future rates of coastal erosion and localised cliff falls. Areas lost to coastal erosion are not likely to be significant.
Will the SMP policy ensure that MoD (Qinetiq) ranges remain operational?	- There is risk of loss of small areas of cliff top land, which are part of the MoD Manorbier Air Defence Range, as the cliffs erode, with risk dependent on future rates of coastal erosion and localised cliff falls.

¹ The SMP1 documents should be referred to for more details as unit boundaries do not always align with SMP2 policy units and the policies refer to different time periods.

Giltar Point to St Govan's Head (17) (this is a summary of impacts, for full details see Appendix G SEA Report)	
Issue	Appraisal
	However, this would not be expected to lead to any loss of functionality of the site as the key assets are unlikely to be affected.
Receptor: Amenity and recreational use	
This coastline includes a number of caravan and camping sites and many of the settlements are key tourist locations. The entire area is a popular tourist destination with key tourist resorts and facilities. The coastline is within the Pembrokeshire Coast National Park which attracts many people to enjoy the scenery and outdoor activities. The Pembrokeshire Coast Path follows the length of the coastline.	
Could the SMP policy have an impact on tourism in the area?	<ul style="list-style-type: none"> - Failure of defences at Lydstep Haven and Freshwater East, and their ongoing deterioration would have a negative visual impact, as well as the potential loss of assets. This could affect the tourist value of the coastline. + Undeveloped stretches of coastline will be allowed to remain undisturbed, thereby maintaining the natural landscape, which is provides the main tourist interest.
Will SMP policy affect coastal access along, or to, the coast?	<ul style="list-style-type: none"> - There is a small risk to the Pembrokeshire Coast Path, due to cliff erosion or localised cliff falls. This risk is expected to increase over time. There is potential for the footpath to be relocated or realigned slightly inshore, if there is sufficient notice and a suitable management plan should be developed to manage these realignments. There may also be access issues at Lydstep Haven as defences fail.
Receptor: Historic environment	
There are a range of historic and archaeological assets within the area. There is a range of cliff top Scheduled Monuments including Penally Ranges First World War Practice Trenches, Old Castle Head Promontory Fort and Greenala Camp. There is nationally important prehistoric occupation associated with cave sites and at Stackpole Warren there is a prehistoric landscape. Local archaeology includes features associated with the Medieval settlement/castle within Manorbier Bay and prehistoric evidence along cliff/coastal edge (flintworking sites).	
Will SMP policy maintain the fabric and setting of key historic listed buildings, cultural heritage assets and conservation areas?	<ul style="list-style-type: none"> - There is a risk of coastal erosion and localised cliff falls at Scheduled Monuments along the cliff top, although the risk is considered minimal and is dependent on future rates of erosion/ cliff falls. As these are located on undeveloped frontages, the recommended policy is to allow continued natural erosion. - There is a risk of erosion or submergence of prehistoric assets located in caves. The level of risk is dependent on erosion rates and rates of sea level rise. + Little risk to Stackpole Warren due to its location on the coastal plateau. However, risk is dependent on erosion rates of the underlying bedrock. x There will be no risk to Manorbier Castle and associated historic assets.
Will the SMP provide sustainable protection of archaeological and palaeo-environmental features or ensure adequate time for monitoring, assessment and mitigation measures to be devised in response to ongoing and future erosion.	<ul style="list-style-type: none"> o The assets are generally located along currently undefended sections of coastline, where there is no intent to provide new defences, as this would not be economically justified and is considered unsustainable. However, since future rates of coastal erosion are likely to be low which should allow time for monitoring, assessment and mitigation measures to be developed and implemented, where appropriate.
Receptor: Landscape character and visual amenity	
The shoreline is within the Pembrokeshire Coast National Park, noted for its spectacular landscape of rugged cliffs, sandy beaches, wooded estuaries and wild inland hills.	
Will SMP policy maintain a range of key natural, cultural and social features critical to the integrity of the coastal landscape?	<ul style="list-style-type: none"> o For much of this shoreline there is no proposed change from existing policy, therefore minimal change to the landscape, particularly in the short term. This will allow the undeveloped areas of coastline to continue developing naturally and maintain their beauty. - From the medium term, abandonment of defences may adversely affect the visual landscape locally, at Lydstep Haven and Freshwater East, as existing defences deteriorate and fail. The only requirement to remove the remains of defences would be if they represented a health and safety risk.
Could SMP policy lead to the introduction of features which could be unsympathetic to the character of the landscape?	<ul style="list-style-type: none"> + There is no intent to provide any additional defences.
Receptor: Biodiversity, flora and fauna	
There are a number of internationally important sites: Giltar Point, Lydstep Point and the Stackpole Warren complex are designated as part of the Limestone Coast of South West Wales SAC, Pembrokeshire Marine Special Area of Conservation (SAC) extends westwards from Priest's Nose, Manorbier and Castlemartin Coast SPA extends westwards from Barafundle Bay. There are also a number of nationally important sites: Lydstep Haven to Tenby Burrows SSSI, Freshwater East Cliffs to Skrinkle Haven SSSI, Stackpole Quay – Trewent Point SSSI and Stackpole SSSI and NNR.	
Will SMP policy enable a sustainable approach to habitat management?	<ul style="list-style-type: none"> + There are no new defences proposed in currently undefended areas, therefore this is considered a sustainable approach to natural evolution of the coastline and its habitats.
Will SMP policy maintain or enhance any international, national or local sites of natural conservation interest?	<ul style="list-style-type: none"> o There is likely to be continued loss of cliff top habitats and areas of woodland and grassland, designated as part of many of the designated sites, but the low rates of coastal erosion and localised cliff falls mean that losses are likely to be small. Newly exposed cliff faces could be colonised by interesting new species. Although the cliffs provide bird breeding habitat, ongoing erosion could maintain this through exposure of new cliff faces. o As sea level rises, there would be natural intertidal narrowing, leading to submergence and loss of habitat, particularly where

Giltar Point to St Govan's Head (17)

(this is a summary of impacts, for full details see **Appendix G SEA Report**)

Issue	Appraisal
	<p>resistant cliffs prevent retreat.</p> <ul style="list-style-type: none"> ● Stackpole Warren and Barafundle Bay dune systems are likely to maintain their overall integrity although there could be foredune erosion as sea level rises, and localised patterns of erosion and accretion. This could lead to change in habitat. Risk to the climbing dunes would be dependent on erosion of the underlying geology. ● Bosherton Lakes would generally maintain their interest, with the dunes continuing to provide protection. However, there would be an increased risk of overtopping and saline incursion into the lakes in response to future sea level rise.
Will SMP policy <u>accelerate</u> intertidal narrowing (coastal squeeze) and will this affect designated habitats?	<ul style="list-style-type: none"> - In the short term there may be intertidal narrowing, i.e. coastal squeeze, in the vicinity of Lydstep Haven and Freshwater East where there are localised lengths of defence. + From the medium term, once defences fail at Lydstep Haven and Freshwater East, the intent is to allow the entire coast to evolve naturally, with no artificial backshore constraints. In places natural intertidal narrowing may still occur as the resistant cliffs may not retreat at the same rate as the sea level rises. This is dependent upon future rates of sea level rise.
Will there be a net loss of BAP habitat within the SMP timespan as a result of SMP policy?	<ul style="list-style-type: none"> + Extension of Sabellaria alveolata reefs in the short, medium and long term due to natural evolution of the coastline. + Extension of habitat for fragile sponges in the short, medium and long term due to natural evolution of the coastline.
<p>Receptor: Earth heritage, soils and geology</p> <p>There are a number of internationally important sites: Giltar Point, Lydstep Point and the Stackpole Warren complex are designated as part of the Limestone Coast of South West Wales SAC, Pembrokeshire Marine Special Area of Conservation (SAC) extends westwards from Priest's Nose, Manorbier and Castlemartin Coast SPA extends westwards from Barafundle Bay. There are also a number of nationally important sites: Freshwater East Cliffs to Skrinkle Haven SSSI, Stackpole Quay – Trewent Point SSSI and Stackpole SSSI and NNR.</p>	
Does SMP policy work with natural processes and enhance or maintain natural features?	<ul style="list-style-type: none"> + The SMP plan is to allow natural coastal processes to continue along much of this frontage. Failure of defences at Lydstep Haven and Freshwater East would enable natural processes to operate.
Will SMP policy maintain or enhance the visibility of coastal geological exposures, where designated?	<ul style="list-style-type: none"> ● Where the shoreline is currently undefended, there is no intention to build new defences, therefore geological exposures in the cliffs will be maintained, which will maintain much of the geological interest. However, natural cliff erosion could lead to loss of some important plant fossils designated as part of Freshwater East Cliffs to Skrinkle Haven SSSI. + The long term aim of allowing existing defences to fail at Lydstep Haven and Freshwater East, may also enhance designated features. - Sea level rise may, in the long term, reduce visibility of foreshore exposures, and lead to submergence of sea caves.
<p>Receptor: Water</p> <p>There are numerous coastal, freshwater, transitional (areas of water near river mouths, which are partially saltwater but are influenced by freshwater) and groundwater bodies in the SMP2 area that have the potential to be affected by SMP2 policies.</p>	
Will SMP policy manage the risk of pollution from contaminated sources?	<ul style="list-style-type: none"> X There are no known contamination issues along this shoreline.
Will SMP policy adversely affect water bodies in the coastal zone?	<ul style="list-style-type: none"> ● Biological quality elements in the majority of the frontage in the Carmarthen Bay and Pembrokeshire South water bodies will not be significantly as a result of primarily NAI, and the WFD objectives are not at risk. + At Freshwater East (PU17.4) MR will allow natural movement of the dune system with potential benefits for associated biological quality elements and WFD objectives for the Pembrokeshire South water body. ● The Pembrokeshire Carboniferous Limestone groundwater body and river and lake water bodies will be unaffected. ● Bosherton Lakes will become increasingly saline as a result of future sea level rise with an adverse impact on the existing freshwater habitat, however the change could be managed effectively if a suitable monitoring and management plan is developed.

Impact colour key	+ Positive	● Neutral	- Negative	X Not applicable
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Giltar Point to St Govan's Head (17)						
ACTION PLAN						
Action	Action Ref	Policy Unit	Action Description (to be approved)	Potential source for funding (subject to approval)	Responsibility Lead partner * (supporting partner)	When by (subject to funding)
1. Studies for Scenario Area	1.1	All	Develop a long term sustainable plan for the Pembrokeshire Coast Path to identify sections which are currently at risk from coastal erosion/ flooding and those which are likely to be at risk in future under a range of future climate change/ sea level rise scenarios. Develop adaptation/ mitigation measures to maintain a continuous coastal footpath.	WAG	PCC/ PCNPA	0 to 20 years
	1	17.2	Engage with and encourage private site owner to develop an adaptation plan for Lydstep Haven holiday park if the existing defences are allowed to fail in the medium and long term, which may involve relocation of assets inshore.	Private	CCW	0 to 20 years
	2.2	17.4	Develop management strategy for Freshwater East dunes to confirm management objectives and triggers for intervention, in order to confirm the best approach to deliver the managed realignment policy.	WAG	PCC	0 to 20 years
	2.3	17.4	Monitoring and documenting of geological SSSI and GCR features which are potentially at risk.	WAG	CCW	0 to 100 years
	2.4	17.6	Develop management plan for Bosherton Lakes and the surrounding area to enable a suitable response to future climate change/ sea level rise to be developed, which is likely to result in increased overtopping of the retaining wall and saline intrusion within the lakes, and a gradual change in the existing freshwater habitat within the lakes.	National Trust	National Trust	0 to 20 years
3. Strategy			-			
4. Scheme work			-			
5. Monitoring (data collection)	5.1	All	Undertake beach and coastal defence asset monitoring to inform future studies and SMP reviews. In particular beach levels and cliff erosion rates should be monitored. This information could not only be used in future coastal management, but also to assist in stakeholder liaison by using data in public education campaigns.	WAG	PCC (Wales Coastal Monitoring Centre)	0 to 100 years
	5.2	All	Continue with existing beach profile monitoring programme and provide information to the Wales Coastal Monitoring Centre for storage and analysis. Use beach profile data to identify the future risk of undermining and overtopping of existing defences,	WAG	Coastal Group (Wales Coastal Monitoring Centre)	0 to 100 years
	5.3	All	Undertake periodic defence inspection, including condition assessment and photographs. Confirm defence crest levels.	WAG	PCC (Wales Coastal Monitoring Centre)	0 to 100 years
	5.4	All	Undertake further studies and associated modelling, to better understand sediment regimes in the SMP area and inform future coastal management.	WAG	Coastal Group	0 to 20 years
	5.5	All	Monitor risk to the coastal footpath and investigate potential re-routing of the path where appropriate.	WAG	PCC/ PCNPA	Ongoing
6. Asset management	6.1	All	Ensure that extent of public and privately owned defences are defined and mapped to inform future management decisions.	WAG	PCC (Wales Coastal Monitoring Centre)	0 to 20 years
	6.2	All	Undertake an appraisal of asset inspection and beach profile monitoring data to assess the existing and future risk of undermining and overtopping of existing structures.	WAG	PCC (Wales Coastal Monitoring Centre)	0 to 20 years
7. Communication	7.1	All	Undertake consultation with the local community, key stakeholders and general public during the development of alternative solutions and wherever appropriate to ensure an acceptable approach is developed and adopted.	WAG	PCC	0 to 20 years
	7.2	All	Undertake monitoring and management of Action Plans to ensure SMP policies are put into practice.	WAG	Coastal Group	0 to 100 years
8. Interface with planning and land management	8.1	All	Continue with risk-based improvements to flood risk maps to provide an appraisal of likely future projected sea level rise.	WAG	EAW	0 to 20 years
	8.2	All	Ensure SMP policies and flood and erosion risks are accounted for in the next revisions of land use plans in order to help manage residual risks from coastal erosion and flooding, and to inform future planning decisions.	WAG	PCC planning / PCNPA planning	0 to 20 years
	8.3	All	Establish an officer working group in order to consider the possible effects of sea level rise on the transport infrastructure of Pembrokeshire in order to identify specific vulnerabilities and possible mitigation. The group should	WAG	PCC/ PCNPA	0 to 20 years

			identify the timescale for such impacts under a range of sea level rise values from 0.5m to 2m and make recommendations as to mitigation and adaptation measures.			
9. Emergency response	9.1	17.2	Development, monitoring and review of emergency response plans to prepare for storm events which are likely to exceed existing defence standards of protection or lead to failure of existing defences (for example following breach or overtopping).	Private	Private (PCC)	0 to 20 years
10. Adaptation/ resilience			-			
11. Flood forecasting and warning	11.1	All	Continue with risk-based improvements to flood risk maps and inundation modelling to provide improved flood warning service.	WAG	EAW	0 to 20 years
12. Habitat creation and environmental mitigation	12.1	All	Welsh Assembly Government instructed Environment Agency Wales to scope out the scale of potential coastal habitat gains and losses for Wales. The scoping exercise was completed in February 2011 and identified potential options for implementation of a National Habitat Creation Programme for Wales. How this programme is to be delivered and funded has yet to be decided.	WAG	TBC	Ongoing
* Note: It is recommended that the lead partner/s investigate the potential for local partnerships and alternative sources of funding.						

SUPERSEDED

Contact S&B/EG for current action plan