Appendix 7: Appropriate Assessment Data Proforma

Site Name: Carmarthen Bay **Location: SS357991** **Size (ha): 33411.27**	**Appropriate Assessment Data Proforma**
Designation:	**SPA**
Qualifying Features	Article 4.2 Qualification (79/409/EEC) Over winter the area regularly supports: ▪ Common Scoter *Melanitta nigra* 1.0% of the population
Conservation Objectives (As defined by CCW, 2008).[1]	**Objectives for the Common Scoter:** ▪ Their number in the SPA, as expressed by rolling 5-year peaks, is at or above the 1997/98-2001/02 peak ▪ Their macro-scale distribution within the site conforms with the 2000-2004 pattern, *i.e.* post 'Sea Empress recovery period' ▪ The extent and quality of supporting habitats is at or above 1999/2000 values ▪ The abundance of prey and diversity of prey species is at or above 1999/2000 values, and at levels meeting the requirements of the number of common scoter present within the site ▪ They are allowed to inhabit their feeding grounds and resting areas with minimum disturbance and no disturbance on their moulting ground at Cefn Sidan, and may move unhindered between them
Key Environmental Conditions (factors that maintain site integrity)	▪ **Extent and Quality of Habitats** - The shallow nature of the Bay suits common scoter which typically occupy waters less than 10 m in depth, allowing them to feed on benthic communities (on and within sand dominated bottom sediments) up to 10 km offshore. The potential feeding area (based on distribution and abundance of prey species) within the Carmarthen Bay SPA is large, from north of a line stretching east from Tenby across the

[1] Countryside Council for Wales (CCW). 2005. Carmarthen Bay and Estuaries European Marine Site Draft Interim Advice.

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	Bay towards Burry Holms, stopping at a point approximately 8 km south of Pembrey Sands. Outside the breeding period, common scoter are predominantly marine, resting and feeding in flocks in shallow, inshore waters, generally 500 m to ca. 2 km from land, where depth not more than 10 to 20 m and animal food are abundantly accessible. ▪ **Abundance of prey and diversity of prey species** - In marine and brackish-water areas, scoter feed especially on blue mussel, fewer cockles, clams and other bivalves and gastropods, periwinkles, and laver snails. They feed occasionally on crustaceans, particularly isopods, amphipods, and small crabs; annelids; and echinoderms. Invertebrates, foremost the bivalves, are thought to form a good source of food for the scoter in the Carmarthen Bay SPA. However, the patchy distribution of prey species, especially those of larger year classes, may be pertinent to the distribution of the common scoter in the Carmarthen Bay SPA.
Vulnerabilities (includes existing pressures and trends)	▪ **Pollution** - major oil pollution incidents in the vicinity of the site have impacted the scoter population in the past and, despite improvements in shipping management, pollution response and contingency planning, hydrocarbon pollution remain a risk to the sea duck feature. Continuing improvements in shipping management, especially at the major oil-port of Milford Haven, management of the wider environment of the Carmarthen Bay & Estuaries and nearby Pembrokeshire Marine SACs, together with CCW's close involvement in the formulation of marine pollution contingency plans should help to further reduce the likelihood and impact of pollution incidents at sea. ▪ **Disturbance** - sea-surface or aerial activity creating significant disturbance of feeding and/ or resting scoter flocks would adversely affect the population by stimulating additional energy expenditure. Significant increases in recreational, commercial or military water-surface or aerial activities during winter months, and during late summer, when moulting birds are particularly vulnerable, could result in such risk. Major infrastructure developments, such as for offshore energy generation, would generate a significant risk of disturbance during both construction and operation if sited inappropriately.

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	▪ **Changes to sediment structures or transport** - significant changes to the sediment structures or sediment transport regime in the Bay could indirectly threaten the integrity of the scoter population through impacts to benthic communities containing the birds' food source. Management of seabed aggregate exploitation is being enhanced, with zoning of the exploitation to avoid sensitive areas of nature conservation importance, and CCW is consulted over applications to dredge aggregates. Current harbour maintenance regimes are considered unlikely to have significant impact on sediment processes; however, major changes to harbour infrastructure and consequential maintenance regimes would need to be carefully considered in terms of their impacts on sediment processes. ▪ **External factors** - the integrity of the scoter population using Carmarthen Bay is also vulnerable to risk factors outside the site, for example at breeding grounds, and broad-scale factors such as long-term climatic change.
Predicted Impacts.	**Disturbance** Development proposed in the LDP has the potential to increase the amount of people participating in water based recreation and therefore increase disturbance to the common scoter at their feeding ground. Any increase in water based recreation within Carmarthen Bay has the potential to have likely significant effect on Carmarthen Bay SPA. **Water Quality** Development proposed in the LDP could have implications for sewerage system capacity/ flows, which could lead to increased levels of diffuse pollution. A decrease in water quality could have significant affects on the common scoter and its prey.
Potential In-combination effects (screening)	**Disturbance**

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	The following plans and programmes have the potential to lead to increased levels of water based recreation and therefore disturbance to the Common Scoter: ▪ Pembrokeshire CC emerging LDP - development in Pembrokeshire County has the potential to increase water based recreation in Carmarthen Bay. ▪ Carmarthenshire UDP (adopted 2006) development in Carmarthenshire has the potential to increase water based recreation in Carmarthen Bay. ▪ The City and County of Swansea UDP (adopted 2008) - development in Swansea has the potential to increase water based recreation in Carmarthen Bay. ▪ Welsh Coastal Tourism Strategy (2007) ▪ 'Catching the Wave' - A Watersports Tourism Strategy for Wales (2004) ▪ A Strategic Plan for Water-related Recreation in Wales (2008) ▪ Pembrokeshire CC Tourism Strategy 2006-2012 **Water Quality** The following plans and programmes have the potential to act in-combination with the LDP and have significant effects on the water quality of Carmarthen Bay: ▪ Pembrokeshire CC emerging LDP - development in Pembrokeshire County has the potential to reduce the water quality of the Cleddau Rivers, which ultimately flow into the Pembrokeshire Marine SA. ▪ Carmarthenshire UDP (adopted 2006) development in Carmarthenshire has the potential to reduce the water quality of the River Tywi, which ultimately flows into Carmarthen Bay. ▪ The City and County of Swansea UDP (adopted 2008) - development in Swansea has the potential to increase pressure on sewerage capacity and therefore decrease water quality in Carmarthen Bay. ▪ Welsh Water (2008) Draft Water Resource Management Plan

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	▪ Welsh Water (2006) Drought Plan ▪ Environment Agency (2006) The Cleddau and Pembrokeshire Coastal Rivers Catchment Abstraction Management Strategy (CAMS) ▪ Environment Agency (2006) The Tywi, Taff and Gwendraeth Catchment Abstraction Management Strategy ▪ Environment Agency (2007) The Tawe, Loughor and Gower Catchment Abstraction Management Strategy
Appropriate Assessment Likelihood of adverse effect on integrity:	**Disturbance** The majority of the Carmarthen Bay SPA is over 1km offshore from PCNP, there is however, a small area of the SPA close to the shore from Monkstone Point up to Amroth. Development proposed in Tenby and Saundersfoot could have the potential to increase levels of water based recreation. One of the conservation objectives for the Common Scoter is that "they are allowed to inhabit their feeding grounds and resting areas with minimum disturbance and no disturbance on their moulting ground at Cefn Sidan, and may move unhindered between them[2]". Cefn Sidan is approximately 20km from PCNP, therefore disturbance arising in this area as a result of the LDP is unlikely. Therefore this assessment has focused on the potential for LDP to increase levels of disturbance to the Common Scoter at their feeding ground. There are two peaks during the year in the Common Scoter population, the first relatively small in August/September when birds may moult at the site, the second (normally providing the largest annual numbers) occurs in mid to late winter (December to January). There is then a decrease as the common scoter start their spring migration to breeding grounds. Numbers of common scoter using the bay vary throughout and between years. The Regulation 33 advice for the SPA notes that in summer, numbers of common scoter are generally very low as most scoters have migrated to breeding grounds, although there are occasionally records of very large numbers. The South West Wales Recreation Audit (2005) identified that visitor activity on the coast and on the

[2] CCW (2005) Carmarthen Bay and Estuaries European Marine Site. Regulation 33 draft advice. Available online: http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/special-sites-project/reg-33-plans.aspx

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	water within the Tenby area is intense and used for an increasing variety of activities during the summer months. The LDP proposes a small level of development during the life of the plan (971 new dwellings, in addition to land already with planning permission - 387); therefore the increase in recreational activity as a result of the LDP is likely to be minimal. It also contains strong policies in regard to the protection of biodiversity and habitats, which have been linked to the visitor economy (Policy 23) through the special qualities of the Park (Policy 45). Given that common scoter numbers in the bay are generally very low at the time when water based recreational activity is at its peak (summer months), **it is not likely that the LDP will have significant effects on The Carmarthen Bay SPA either alone or in-combination through increased levels of disturbance.** **Water Quality** Carmarthen Bay is a wide, shallow bay west of the Gower Peninsula. It is approximately 28 km from east to west by 20 km north to south. The Deposit Plan proposes development Tenby and Saundersfoot, which are in close proximity to the site. Potential impacts arising as a result of the proposed development include increased pressure on sewerage system capacity/ flow. This could lead to potentially significant effects on the SPA through reduced water quality. The HRA Screening Report (December 2008) identified a number of site allocations that had the potential - using the precautionary principle - to put increased pressure on sewerage capacity/ flow. The assessments were based on a range of information, which included comments from statutory consultees on the individual site allocations. A number of these comments from EAW and Welsh Water stated that suitable infrastructure was not present to meet the level of development proposed at particular sites. EAW have expressed concerns about the large

[3] Welsh Water (2008) HRA of the Draft Water Resource Management Plan. Available online: http://www.dwrcymru.com/English/Company/Operations/resources/wrmp/index.asp

[4] Environment Agency (Accessed 22/01/09) What's in Your Backyard? Available online: http://maps.environment-agency.gov.uk/wiyby/wiybyController?extraClause=RIVER_NAME~'Usk

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	amount of development proposed for Tenby and the implications for infrastructure, such as sewer system capacity/ flows. The current level of development proposed in the LDP is not likely to significantly increase the level of water abstractions in the Cleddau and Pembrokeshire Coastal Rivers Catchment. However, the emerging Pembrokeshire CC LDP could have the potential to propose development that will act in-combination with the PCNPA LDP. As the Pembrokeshire CC LDP is still in the early stages it is difficult to assess the potential in-combination effects as no spatial development proposals have yet emerged. The Eastern and Western Cleddau rivers provide most of the domestic water supply for Pembrokeshire, as well as providing water for industry and agriculture. This water is used by the water company, Welsh Water, to supply most of Pembrokeshire with its domestic water supply in addition to some of the major industry in the area. The Cleddau and Pembrokeshire Coastal Rivers Catchment Abstraction Management Strategy (CAMS) has 5 surface water units (WRMU) as well as numerous groundwater management units (GWMU). The CAMS assesses that WRMU 1 (Western Cleddau) has 'no water available' and that WRMU 2 (Eastern Cleddau) is 'over licensed'. Most of the rivers surveyed in the CAMS for water quality have either 'very good' or 'good' chemical and biological quality. Water quality in the Western and Eastern Cleddau is generally excellent, with 100% of classified stretches falling within River Ecosystem classifications 1('very good') or 2 ('good'). The Tywi, Taf & Gwendraeth CAMS is mainly within the County of Carmarthenshire, although there are small areas that fall within Pembrokeshire, Ceredigion and Powys. Within the CAMS there are 143 licensed groundwater abstractions and 67 licensed surface water abstractions, prior to deregulation. The main consumptive use of surface water is for public water supply. Small volumes are abstracted for agriculture, water bottling, private water supplies and industry. The Environment Agency Wales undertakes routine monitoring of water quality. On the whole, water quality in this CAMS area is excellent, while the water quality in the Gwendraeths is generally very good. River Quality Objectives are met throughout the CAMS area. The Tawe, Loughor and Gower CAMS area is predominantly rural, urban and industrial development is

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	concentrated around Swansea and Llanelli, and adjacent to the rivers in the Tawe and Amman Valleys. The rivers within the CAMS area are all surface water dominated catchments. In total there are 9 licensed groundwater abstractions and 40 licensed surface water abstractions in the Tawe, Loughor and Gower CAMS area. Approximately 99% of the licensed abstractions are from surface waters and approximately 70% of these resources are taken for non-consumptive purposes, which means the water is returned to the river a short distance away. The largest abstraction is non-consumptive for a hydropower scheme. A large proportion of the remaining water licensed for abstraction is for public water supply and industrial purposes. Most of the sites surveyed in the CAMS area have either 'very good' or 'good' chemical and biological quality and achieve the River Quality Objective. All the classified stretches fall within the River Ecosystem Classifications 1 ('very good') or 2 ('good'). Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications (Review of Consents - RoC) to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license. This could involve the issue of a license with conditions attached, such as a 'Hands-Off Flow' condition. This specifies that if the flow or level in the river drops below that which is required to protect the environment the abstraction must stop. The HRA of Welsh Water's Draft Water Resource Management Plan (Nov 2008) states that "accurate assessment of exposure (and therefore vulnerability)", of a European site "can only be achieved through detailed studies in the RoC process, informed by the site knowledge of the CCW local teams and officers"[3]. Therefore it cannot be concluded that there will be no likely significant effect on the Carmarthen Bay SPA if the dWRMP is implemented. The HRA suggests that appropriate caveats be included within the existing dWRMP to help ensure that no significant effects are likely as a result of its implementation. Welsh Water's (21/07/08) response to the LDP site allocations consultation states that, "based on future demands already shared with us we do not foresee any problems at present in meeting the anticipated domestic demands during the life of the Local Development Plan".

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	This AA is a strategic level assessment of the likely significant effects of the LDP (both alone and in-combination) on European sites, therefore individual site allocations would be more appropriately assessed at a lower tier of planning. Project level HRA would provide a detailed site level analysis of the potential impacts of that development on the Carmarthen Bay SPA, and provide suitable mitigation measures to reduce potential adverse effects on water quality. The LDP contains strong policies in regard to sustainable design (Policy 17) and surface water drainage (Policy 20) that will help to mitigate the adverse impacts of development on the water environment. Within the supporting text of policy 17 it is stated that adequate sewage disposal facilities and surface water drainage capacity must be available before the development can be occupied. This should addresses concerns expressed in the HRA Screening Report (Dec 2008) in relation to certain site allocations not having adequate sewerage system capacity. Given the current ecological and chemical water quality of rivers flowing into the site and coastal/estuarine waters within the SPA[4] and the mitigation provided by policies within the LDP, which includes the provision of adequate infrastructure before a development is inhabited, **it is not likely that the LDP will have likely significant effects on water quality in the Carmarthen Bay SPA either alone or in-combination.**
Possible Avoidance and Mitigation Measures – includes recommendations for policy/proposals	The LDP contains strong policies in regard to sustainable design (Policy 17) and surface water drainage (Policy 20) that will help to mitigate potential adverse impacts of development on the water environment. Within the supporting text of policy 17 it is stated that adequate sewage disposal facilities and surface water drainage capacity must be available before the development can be occupied.
Conclude no adverse effect on integrity?	No adverse effect on integrity as policies within the LDP contain suitable protection and mitigation measures to reduce potential impacts on the water environment.
Recommendations for	During the initial assessment stages the AA recommended that there should be more emphasis on the need to

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Policy/ Proposal	ensure that adequate sewerage disposal facilities and surface water drainage capacity is available before development is occupied. The PCNPA then proceeded to include wording to this effect within the supporting text of Policy 17.

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Qualifying Features	**Annex I habitats that are a primary reason for selection of this site:** ▪ Sandbanks which are slightly covered by sea water all the time; ▪ Estuaries; ▪ Mudflats and sandflats not covered by seawater at low tide; ▪ Large shallow inlets and bays; ▪ *Salicornia* and other annuals colonising mud and sand; ▪ Atlantic salt meadows *Glauco-Puccinellietalia maritimae* **Annex II species that are a primary reason for selection of this site:** ▪ Twaite shad *Alosa fallax* **Annex II species present as a qualifying feature, but not a primary reason for site selection:** ▪ Sea lamprey *Petromyzon marinus* ▪ River lamprey *Lampetra fluviatilis* ▪ Allis shad *Alosa alosa* ▪ Otter *Lutra lutra*
Conservation Objectives (As defined by CCW, 2005).[5]	**Objectives for the Estuaries:** ▪ Total extent of all estuarine communities within the site is at or above *ca.* 9,500 ha ▪ Variety and species composition of intertidal communities is at or above 1999/2000 values, and there is no change in their macro-scale distribution ▪ Hydroid rockpool community LR.H is present throughout its range within the site

[5] Countryside Council for Wales (CCW). 2005. Carmarthen Bay and Estuaries European Marine Site Draft Interim Advice.

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	▪ Extent, variety and species composition of any notable subtidal sediment and subtidal hard substrata communities are at or above established baselines (to be determined) ▪ Extent, variety and indigenous species composition of saltmarsh communities are at 1997/1998 values ▪ Extent, variety and indigenous species composition of transitional saltmarsh communities are at or above1997/98 values ▪ Number of juvenile bass *Dicentrarchus labrax* is at or above an established baseline (to be determined) ▪ Through-passage (and residency) of migratory fish to and from areas that comprise the species' known and potential distribution, is unhindered and undisturbed ▪ Spatial and temporal patterns of physical and chemical conditions and processes are within limits sufficient to satisfy all the preceding objectives above. **Objectives for the Sand and Mudflats:** ▪ The total extent of all intertidal mudflats, sandflats and associated shallow channels within the site is at the 1999/2000 value (*ca*. 7,000 ha) ▪ The variety and species composition of intertidal mudflat and sandflat communities is at or above 1999/2000 values; and there is no change in their macro-scale distribution ▪ The extent of notable communities is at or above 1999/2000 values, and there is no change in their macro-scale distribution ▪ Notable species are present ▪ The spatial and temporal patterns of physical and chemical conditions and processes are within limits sufficient to satisfy the preceding objectives above. **Objectives for Atlantic Saltmarsh:** ▪ Extent of the Atlantic saltmeadows within the site is at the 1997/98 value (*ca.* 2,400 ha) ▪ Variety, extent and distribution of saltmarsh communities that form the Atlantic saltmeadows are at their

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	1997/98 values ▪ Areas of well-developed zoning of plant communities within the saltmarshes are at or above 1997/98 values ▪ Indigenous species composition of the saltmarsh communities is at or above 1997/98 values ▪ Structural diversity of the saltmarsh vegetation, which is governed by a wide range of grazing regimes, is at or above1997/98 levels ▪ Range and extent of the morphologies of tidal creeks, saltpans and stepped saltmarsh surfaces within the Atlantic saltmeadow habitat, are at 1997/98 values ▪ Populations of all notable species are viable ▪ Extent of the common cord-grass *Spartina anglica* is at or below the 1997/98 value ▪ Spatial and temporal patterns of physical and chemical conditions and processes are within limits sufficient to satisfy the preceding objectives above. **Objectives for *Salicornia* and Other Annuals:** ▪ Extent of pioneer saltmarsh communities within the site is at or above the 1997/98 value ▪ Variety, extent and distribution of the pioneer saltmarsh communities are at their 1997/98 values ▪ Indigenous species composition of the pioneer saltmarsh communities is at 1997/98 values ▪ Variety and extent of geomorphological components supporting the pioneer saltmarsh habitat, such as tidal creeks and saltpans, are at 1997/98 values ▪ Population of *Salicornia pusilla* is viable ▪ Extent of the common cord-grass *Spartina anglica* is at or below the 1997/98 value ▪ Spatial and temporal patterns of physical and chemical conditions and processes are within limits sufficient to satisfy the preceding objectives above. **Objectives for the Large Shallow Inlets/Bays:**

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	▪ The total extent of all shallow inlet/bay communities within the site is at or above *ca.* 43,500 ha ▪ The variety and species composition of littoral and sublittoral communities is at or above 1999/2000 values, and there is no change in their macro-scale distribution ▪ The notable littoral and infralittoral communities are present throughout their range within the site viable ▪ Species composition of notable littoral and infralittoral communities is at or above established baselines (to be determined) ▪ Notable species are present ▪ Through-passage (and residency) of migratory fish to and from areas that comprise the species' known and potential distribution, is unhindered and undisturbed ▪ Populations of juvenile and adult fish are at or above established baselines (to be determined) ▪ Spatial and temporal patterns of physical and chemical conditions and processes are within limits sufficient to satisfy the preceding objectives above. **Objectives for the Subtidal Sandbanks:** ▪ The extent and volume of Helwick Bank, as expressed by rolling 5-year means, are at or above the 2001-2005 means ▪ The macro-topography of Helwick Bank, as expressed by rolling 5-year means, is at or above the 2001-2005 mean ▪ The total extent of mobile bedforms (sand dunes) on Helwick Bank, as expressed by rolling 5-year means, is at or above the 2001-2005 mean ▪ There is no long-term change in the sediment characteristics of Helwick Bank from 2001 values ▪ The extent of each of three biotopes is at 2001 values ▪ Species richness along the southern flank of Helwick Bank is at or above the 2001 level ▪ Notable species in or on the sandbank are present

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	▪ The number of sandeel *Ammodytes tobianus* is at or above an established baseline (to be determined) ▪ The diversity of fish species is at or above 2001 levels ▪ The number of elasmobranchs is at or above 2001 levels ▪ The spatial and temporal patterns of physical and chemical conditions and processes (see Box 6.5) are within limits sufficient to satisfy the preceding objectives above. **Objectives for the Shad:** ▪ The number of adult and juvenile shad *Alosa sp.* within the site is at or above established baseline values (to be determined) ▪ Sufficient suitable habitat for the shad is present, to support and accommodate the full size range of juvenile shad, throughout the species' known and potential distribution ▪ Sufficient suitable food resources are available for the shad, at levels meeting the requirements of the number of shad of all year classes present within the site ▪ Shad are allowed to migrate unhindered and undisturbed to and from any areas of the site they may require, including feeding and spawning grounds ▪ Estuarine water quality in the Three Rivers complex is in class A. **Objectives for the River Lamprey:** ▪ The number of adult and juvenile river lamprey within the site is at or above established baseline values (to be determined) ▪ Sufficient suitable food resources are available for the river lamprey, at levels meeting the requirements of the number of river lamprey within the site ▪ River lamprey are allowed to migrate unhindered and undisturbed to and from any areas of the site they may require, including feeding and spawning grounds ▪ Estuarine water quality in the Three Rivers complex is in class A.

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	Objectives for the Sea Lamprey: ▪ The number of adult and juvenile sea lamprey within the site is at or above established baseline values (to be determined) ▪ Sufficient suitable food resources are available for the sea lamprey, at levels meeting the requirements of the number of sea lamprey within the site ▪ Sea lamprey are allowed to migrate unhindered and undisturbed to and from any areas of the site they may require, including feeding and spawning grounds ▪ Estuarine water quality in the Three Rivers complex is in class B or above. **Objectives for the Otter:** ▪ The number of otters within the site is at or above an established baseline (to be determined) ▪ The macro-scale distribution of otters within the site conforms with an established baseline (to be determined) ▪ The extent of supporting habitats is at 1997-2000 values, and their quality is either at or above the1997-2000 values ▪ Sufficient suitable breeding areas for otters are present within the site (to be determined) ▪ Sufficient suitable resting areas for otters are present within the site (to be determined) ▪ Sufficient suitable travelling routes for otters are present within and to / from the site, particularly between river systems (to be determined) ▪ Sufficient abundance and diversity of prey species are available (to be identified) ▪ There is good access to good quality freshwater within the site for drinking/bathing (to be determined)
Key Environmental Conditions (factors that maintain site integrity)	**Estuaries** Spatial and temporal patterns of physical and chemical conditions and processes

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	This covers a wide variety of hydrophysical and chemical conditions and / or processes that influence the estuaries, including the following: ▪ Wave exposure ▪ Tidal flows ▪ Topography ▪ Turbidity ▪ Water quality More specifically: ▪ sediment movements within the estuaries and exchanges of sediment between the estuaries and Carmarthen Bay; ▪ the estuaries are allowed to reach their respective morphological equilibria between their physical forms and their respective hydrodynamic regimes (realignment of the estuaries); ▪ the current balance between annually averaged riverine, freshwater inputs and tidal flows; ▪ the levels of fine sediment input from the rivers remain within acceptable limits. **Mudflats and sandflats not covered by seawater at low tide** The spatial and temporal patterns of physical and chemical conditions and processes This covers a wide variety of sedimentary, hydrophysical and chemical conditions and / or processes that influence the mudflats and sandflats, including the following: ▪ Wave exposure ▪ Tidal flows ▪ Topography

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	▪ Turbidity ▪ Water quality **Atlantic saltmeadows (*Glauco-Puccinellietalia maritimae*)** The spatial and temporal patterns of physical and chemical conditions and processes This covers a wide range of sedimentary, hydrophysical and chemical conditions and/ or processes that influence the Atlantic saltmeadows, including the following: ▪ Wave exposure ▪ Tidal flows ▪ Sediment transport ▪ Water quality **Salicornia and other annuals colonising mud and sand** The spatial and temporal patterns of physical and chemical conditions and processes This covers a wide range of sedimentary, hydrophysical and chemical conditions and/ or processes that influence Salicornia and other annuals, including the following: ▪ Wave exposure ▪ Tidal flows ▪ Sediment transport ▪ Water quality **Large shallow inlets / bays** The spatial and temporal patterns of physical and chemical conditions and processes

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	This covers a wide variety of hydrophysical and chemical conditions and/ or processes that influence Carmarthen Bay, including the following: ▪ Wave exposure ▪ Tidal flows ▪ Topography ▪ Sediment transport ▪ Water quality **Subtidal sandbanks** The spatial and temporal patterns of physical and chemical conditions and processes This covers a wide variety of hydrophysical and chemical conditions and/ or processes that influence Helwick Bank, including the following: ▪ Wave exposure ▪ Tidal flows ▪ Sediment transport ▪ Water quality **Alosa sp. – shad** Presence of sufficient suitable habitat This refers to the following: ▪ Estuaries ▪ Large shallow inlets and bays ▪ Sandbanks which are slightly covered by sea water all the time

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Vulnerabilities (includes existing pressures and trends)	▪ **Commercial Fishing** - Carmarthen Bay is both a fisheries resource and important nursery ground. Developments in fishing practices and target species could threaten the integrity of both the sea-bottom communities. Most potential threats come from fisheries and related activities such as shellfish management and access issues related to mussel and cockle gathering. ▪ **Pollution** - Salicornia is very susceptible to marine pollution from oil spills or refinery effluent and is killed quickly by a single spillage.
Predicted Impacts.	**Water Quality** Development proposed in the LDP could have implications for sewerage system capacity/ flows, which could lead to increased levels of diffuse pollution. A decrease in water quality could have significant affects on the designated habitats and species at this site.
Potential In-combination effects (screening)	**Water Quality** The following plans and programmes have the potential to act in-combination with the LDP and have significant effects on the water quality of Carmarthen Bay: ▪ Pembrokeshire CC emerging LDP - development in Pembrokeshire County has the potential to reduce the water quality of the Cleddau Rivers, which ultimately flow into the Pembrokeshire Marine SA. ▪ Carmarthenshire UDP (adopted 2006) development in Carmarthenshire has the potential to reduce the water quality of the Tywi River, which ultimately flows into Carmarthen Bay. ▪ The City and County of Swansea UDP (adopted 2008) - development in Swansea has the potential to increase pressure on sewerage capacity and therefore decrease water quality in Carmarthen Bay.

Site Name: Carmarthen Bay and Estuaries Location: SS357991 Size (ha): 66,101.16	Appropriate Assessment Data Proforma
Designation:	**SAC**
	▪ Welsh Water (2008) Draft Water Resource Management Plan ▪ Welsh Water (2006) Drought Plan ▪ Environment Agency (2006) The Cleddau and Pembrokeshire Coastal Rivers Catchment Abstraction Management Strategy (CAMS) ▪ Environment Agency (2006) The Tywi, Taff and Gwendraeth Catchment Abstraction Management Strategy ▪ Environment Agency (2007) The Tawe, Loughor and Gower Catchment Abstraction Management Strategy
Appropriate Assessment Likelihood of adverse effect on integrity:	**Water Quality** Carmarthen Bay is a wide, shallow bay west of the Gower Peninsula. It is approximately 28 km from east to west by 20 km north to south. The Deposit Plan proposes development Tenby and Saundersfoot, which are in close proximity to the site. Potential impacts arising as a result of the proposed development include increased pressure on sewerage system capacity/ flow. This could lead to potentially significant effects on the SAC through reduced water quality. The HRA Screening Report (December 2008) identified a number of site allocations that had the potential - using the precautionary principle - to put increased pressure on sewerage capacity/ flow. The assessments were based on a range of information, which included comments from statutory consultees on the individual site allocations. A number of these comments from EAW and Welsh Water stated that suitable infrastructure was not present to meet the level of development proposed at particular sites. EAW have expressed concerns about the large amount of development proposed for Tenby and the implications for infrastructure, such as sewer system capacity/ flows. The current level of development proposed in the LDP is not likely to significantly increase the level of water abstractions in the Cleddau and Pembrokeshire Coastal Rivers Catchment. However, the emerging Pembrokeshire CC LDP could have the potential to propose development that will act in-combination with the PCNPA LDP. As the Pembrokeshire CC LDP is still in the early stages it is difficult to assess the potential in-

Site Name: Carmarthen Bay and Estuaries Location: SS357991 Size (ha): 66,101.16	Appropriate Assessment Data Proforma
Designation:	**SAC**
	combination effects as no spatial development proposals have yet emerged. The Eastern and Western Cleddau rivers provide most of the domestic water supply for Pembrokeshire, as well as providing water for industry and agriculture. This water is used by the water company, Welsh Water, to supply most of Pembrokeshire with its domestic water supply in addition to some of the major industry in the area. The Cleddau and Pembrokeshire Coastal Rivers Catchment Abstraction Management Strategy (CAMS) has 5 surface water units (WRMU) as well as numerous groundwater management units (GWMU). The CAMS assesses that WRMU 1 (Western Cleddau) has 'no water available' and that WRMU 2 (Eastern Cleddau) is 'over licensed'. Most of the rivers surveyed in the CAMS for water quality have either 'very good' or 'good' chemical and biological quality. Water quality in the Western and Eastern Cleddau is generally excellent, with 100% of classified stretches falling within River Ecosystem classifications 1('very good') or 2 ('good'). The Tywi, Taf & Gwendraeth CAMS is mainly within the County of Carmarthenshire, although there are small areas that fall within Pembrokeshire, Ceredigion and Powys. Within the CAMS there are 143 licensed groundwater abstractions and 67 licensed surface water abstractions, prior to deregulation. The main consumptive use of surface water is for public water supply. Small volumes are abstracted for agriculture, water bottling, private water supplies and industry. The Environment Agency Wales undertakes routine monitoring of water quality. On the whole, water quality in this CAMS area is excellent, while the water quality in the Gwendraeths is generally very good. River Quality Objectives are met throughout the CAMS area. The Tawe, Loughor and Gower CAMS area is predominantly rural, urban and industrial development is concentrated around Swansea and Llanelli, and adjacent to the rivers in the Tawe and Amman Valleys. The rivers within the CAMS area are all surface water dominated catchments. In total there are 9 licensed groundwater abstractions and 40 licensed surface water abstractions in the Tawe, Loughor and Gower CAMS area. Approximately 99% of the licensed abstractions are from surface waters and approximately 70% of these resources are taken for non-consumptive purposes, which means the water is returned to the river a short distance away. The largest abstraction is non-consumptive for a hydropower scheme. A large proportion of the remaining water licensed for abstraction is for public water supply and industrial purposes. Most of the sites surveyed in the CAMS

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	area have either 'very good' or 'good' chemical and biological quality and achieve the River Quality Objective. All the classified stretches fall within the River Ecosystem Classifications 1 ('very good') or 2 ('good'). Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications (Review of Consents - RoC) to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license. This could involve the issue of a license with conditions attached, such as a 'Hands-Off Flow' condition. This specifies that if the flow or level in the river drops below that which is required to protect the environment the abstraction must stop. The HRA of Welsh Water's Draft Water Resource Management Plan (Nov 2008) states that "accurate assessment of exposure (and therefore vulnerability)", of a European site "can only be achieved through detailed studies in the RoC process, informed by the site knowledge of the CCW local teams and officers"[6]. Therefore it cannot be concluded that there will be no likely significant effect on the Carmarthen Bay and Estuaries SAC if the dWRMP is implemented. The HRA suggests that appropriate caveats be included within the existing dWRMP to help ensure that no significant effects are likely as a result of its implementation. Welsh Water's (21/07/08) response to the LDP site allocations consultation states that, "based on future demands already shared with us we do not foresee any problems at present in meeting the anticipated domestic demands during the life of the Local Development Plan". The coastal waters within the Carmarthen Bay and Estuaries SAC have been assessed by the EA as having good ecological quality status and high chemical quality status[7]. The EA predicts that by 2015 the ecological quality of

[6] Welsh Water (2008) HRA of the Draft Water Resource Management Plan. Available online: http://www.dwrcymru.com/English/Company/Operations/resources/wrmp/index.asp

[7] Environment Agency (Accessed 22/01/09) What's in Your Backyard? Available online: http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=_e

Site Name: Carmarthen Bay and Estuaries Location: SS357991 Size (ha): 66,101.16	Appropriate Assessment Data Proforma
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	the coastal waters will be maintained at good status. The chemical quality however is predicted to decrease from high to good status by 2015. This AA is a strategic level assessment of the likely significant effects of the LDP (both alone and in-combination) on European sites, therefore individual site allocations would be more appropriately assessed at a lower tier of planning. Project level HRA would provide a detailed site level analysis of the potential impacts of that development on the Carmarthen Bay and Estuaries SAC, and provide suitable mitigation measures to reduce potential adverse effects on water quality. The LDP contains strong policies in regard to sustainable design (Policy 17) and surface water drainage (Policy 20) that will help to mitigate the adverse impacts of development on the water environment. Within the supporting text of policy 17 it is stated that adequate sewage disposal facilities and surface water drainage capacity must be available before the development can be occupied. This should addresses concerns expressed in the HRA Screening Report (Dec 2008) in relation to certain site allocations not having adequate sewerage system capacity. Given the current ecological and chemical water quality of rivers flowing into the site and coastal/estuarine waters within the SAC[8] and the mitigation provided by policies within the LDP, which includes the provision of adequate infrastructure before a development is inhabited, **it is not likely that the LDP will have likely significant effects on water quality in the Carmarthen Bay and Estuaries SAC either alone or in-combination.**
Possible Avoidance and Mitigation Measures – includes	The LDP contains strong policies in regard to sustainable design (Policy 17) and surface water drainage (Policy 20) that will help to mitigate potential adverse impacts of development on the water environment. Within the supporting text of policy 17 it is stated that adequate sewage disposal facilities and surface water drainage capacity must be available before the development can be occupied.

[8] Environment Agency (Accessed 22/01/09) What's in Your Backyard? Available online: http://maps.environment-agency.gov.uk/wiyby/wiybyController?extraClause=RIVER_NAME~'Usk

Site Name: Carmarthen Bay and Estuaries **Location: SS357991** **Size (ha): 66,101.16**	**Appropriate Assessment Data Proforma**
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recommendations for policy/proposals	
Conclude no adverse effect on integrity?	No adverse effect on integrity as policies within the LDP contain suitable protection and mitigation measures to reduce potential impacts on the water environment.
Recommendations for Policy/ Proposal	During the initial assessment stages the AA recommended that there should be more emphasis on the need to ensure that adequate sewerage disposal facilities and surface water drainage capacity is available before development is occupied. The PCNPA then proceeded to include wording to this effect within the supporting text of Policy 17.

Site Name: North West Pembrokeshire Commons **Location: SM776273** **Size (ha): 248.89**	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
Qualifying Features	**Annex I habitats primary reason for selection:** ▪ European dry heaths ▪ Transition mires and quaking bogs **Annex I habitats qualifying feature:** ▪ Northern Atlantic wet heaths with *Erica tetralix* ▪ *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) **Annex II species primary reason for selection:** ▪ Floating water-plantain *Luronium natans*
Conservation Objectives (As defined by CCW, 2008).[9]	**Conservation Objective for Feature 1: Floating Water Plantain *Luronium natans*** Vision for Floating Water Plantain The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ There will be at least two populations, in separate waterbodies. ▪ There will be no contraction in the extent of *L. natans* populations. ▪ *L. natans* populations will be viable & able to maintain themselves on a long-term basis. *L. natans* must be able

[9] Countryside Council for Wales (CCW). 2008. Core Management Plan including conservation objectives for North West Pembrokeshire Commons Special Area of Conservation (SAC). Version 20, April 2008.

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Designation:	**SAC**
	to complete sexual and/or vegetative reproduction successfully. ▪ The waterbodies will have sufficient suitable habitat to support viable *L. natans* populations and to allow for future expansion of the population. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Floating Water Plantain The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the North West Pembrokeshire Commons SPA Management Plan. **Conservation Objective for Feature 2: European Dry Heaths** Vision for Dry Heath The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Dry heath will cover between 1% and 30% of the site area and display a range of plant and insect species typical of the habitat. ▪ The following plants will be common in the dry heath: heather *Calluna vulgaris*; bell heather *Erica cinerea* and western gorse *Ulex gallii*. ▪ Competitive species indicative of under-grazing, particularly bracken *Pteridium aquilinum* and purple moor-grass *Molinia caerulea* will be kept in check. Western gorse *Ulex gallii* will not exceed 50% cover. ▪ 70% of dry heath will be "good condition" dry heath.

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	▪ All factors affecting the achievement of these conditions, including grazing and scrub/bracken encroachment are under control. Performance indicators for Dry Heath (see performance indicators for the Floating Water Plantain) **Conservation Objective for Feature 3: Transition Mires and Quaking Bogs** Vision for Transition Mire and Quaking Bog The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ TM&QB will cover at least 9ha of the site and display a range of plant and invertebrate species typical of the habitat. ▪ *Potentilla palustris, Carex diandra, Carex rostrata, Menyanthes trifoliata, Hypericum elodes, Pedicularis palustris* will be common, forming a quaking raft of vegetation. ▪ Juncus effusus will be at less than 5% cover. ▪ 70% of TM&QB will be good condition, where open water species will be present; large sedges, negative indicator species and scrub will be absent; grasses form <5% cover. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Transition Mire and Quaking Bog (see performance indicators for the Floating Water Plantain) **Conservation Objective for Feature 4: Northern Atlantic Wet Heaths with *Erica tetralix***

Site Name: North West Pembrokeshire Commons **Location: SM776273** **Size (ha): 248.89**	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
	Vision for Wet Heath The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Wet heath will cover at least 14.5 ha of the site and display a range of plant and invertebrate species typical of the habitat. ▪ The following plants will be common in the dry heath: heather Calluna vulgaris; Cross-leaved heath Erica tetralix as well as bog moss Sphagnum spp. and Narthecium ossifragum. ▪ Competitive species indicative of under-grazing, particularly bracken Pteridium aquilinum, purple moor-grass Molinia caerulea and western gorse Ulex gallii will be kept in check. ▪ 70% of wet heath will be "good condition" wet heath. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Wet Heath (see performance indicators for the Floating Water Plantain) **Conservation Objective for Feature 5: *Molinia* Meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)** Vision for Molinia Meadows The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

Site Name: North West Pembrokeshire Commons **Location: SM776273** **Size (ha): 248.89**	**Appropriate Assessment Data Proforma**
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	▪ Molinia meadows habitat will cover at least 22 ha of the site and display a range of plant and invertebrate species typical of the habitat. ▪ 70% of the Molinia meadows habitat in each area of habitat will be described as being in good condition. ▪ The SAC marshy grassland will be dominated by Molinia caerulea, typically with a species-rich mixture of short sedges, forbs and bryophytes. One or more of Carex pulicaris, Carex hostiana or Cirsium dissectum must be at least frequent. ▪ Competitive species indicative of under-grazing, particularly Molinia itself, will be kept in check. ▪ Scrub species such as willow Salix and birch Betula will also be largely absent from the marshy grassland. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for *Molinia* Meadows (see performance indicators for the Floating Water Plantain)
Key Environmental Conditions (factors that maintain site integrity)	▪ **Livestock grazing** - Light grazing by animals is essential for maintaining the site. Without an appropriate grazing regime, the dry heath would become rank and eventually turn to gorse scrub and woodland. ▪ **Water Quantity** - Peripheral surface drainage and/or abstractions for private water supply could reduce the quantity and quality of water available to this feature. ▪ **Water Quality** - Water may be subject to run-off from agricultural activities such as fertiliser application. It could also be affected by pesticides or airborne pollutants such as nitrous oxides from vehicle exhausts.
Vulnerabilities (includes existing pressures and trends)	▪ **Water Quality** - Water may be subject to run-off from agricultural activities such as fertiliser application. It could also be affected by pesticides or airborne pollutants such as nitrous oxides from vehicle exhausts. Dowrog Pool is fed by water arising on the common, but could potentially be impacted by agricultural activities such as

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	fertiliser application on adjoining land. ▪ **Water Quantity** - Peripheral surface drainage and/or abstractions for private water supply could reduce the quantity and quality of water available to this feature. Modifying the hydrology of the area could have negative impacts as could successional changes to the vegetation in and around the pools, leading to a loss of suitable habitat ▪ **Burning** - Areas of dry heath have been burnt on an annual basis. These are usually carried out by the commoners to encourage fresh growth for stock, but occasionally may be accidental burns or arson attacks. Burning the same area too frequently may impoverish the heath, encouraging a vigorous re-growth of more competitive, fire-resistant species like purple moor-grass, western gorse and bracken. ▪ **Pollutants** - The dry heath could be affected by airborne pollutants such as nitrous oxides from vehicle exhausts, or drift of lime from adjacent fields ▪ **Alien species** - No invasive or alien species are currently recorded near the Luronium populations, but they could in future threaten the population.
Predicted Impacts.	**Air Quality** Potential impacts arising from increased housing and employment development in St David's include increased population and increased traffic flow along the A487. **Drainage** Site allocation HA737 is less than 200m from the SAC and has the potential to have significant effects on drainage,

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	which is a key factor for maintaining site integrity. **Burning** The development proposed in St David's will lead to an increase in population which has the potential to increase the levels of unauthorised burning.
Potential In-combination effects (screening)	**Air Quality** These tourism strategies have the potential to increase the number of visitors to PCNP and therefore increase the level of traffic along the A487: ▪ Welsh Coastal Tourism Strategy (2007) ▪ 'Catching the Wave' - A Watersports Tourism Strategy for Wales (2004) ▪ A Strategic Plan for Water-related Recreation in Wales (2008) ▪ Pembrokeshire CC Tourism Strategy 2006-2012 The Regional Transport Plan (2008) seeks to improve the efficient, reliable and sustainable movement of people and freight as well as reducing the contribution of transport to greenhouse gas emissions. This will help to mitigate or offset any increase in diffuse air pollution as a result of this Plan.
Appropriate Assessment Likelihood of adverse effect on integrity:	**Air Quality** The CMP identifies that the SAC is vulnerable to airborne pollution, such as nitrous oxides from vehicle exhausts. The A487 is less than 200m from management units 1 and 4, therefore an increase in traffic could lead to an increase in airborne pollutants in these units. Based on Natural England advice to Runnymede Borough Council

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	on traffic-related air pollution[10] and the HRA of the SE Plan[11], it is generally felt that air pollution only needs to be considered at a site if a road carrying a significant proportion of new traffic related to the plan runs within 200 meters of a European site. The proposed level of development in the area is not likely to significantly increase the level of traffic along the A487. Air Quality data shows that in 2003, nitrogen and sulphur deposition did not exceed critical loads at this site and it is estimated that by 2010 nitrogen and sulphur deposition will have decreased even further[12]. The condition status of the designated habitats is unfavourable recovering, mainly due to site level management issues such as grazing and gorse control. Given that the level of proposed development will have a minimal impact on traffic levels and air quality at the site is expected to improve, **it is not likely that the LDP will have significant effects on the North West Pembrokeshire Commons SAC either alone or in-combination through increased levels of airborne pollution.** **Burning** Areas of dry heath have been burnt at the site on an annual basis. This is usually carried out by the commoners to encourage fresh growth for stock, but occasionally may be accidental burns or arson attacks. Burning the same area too frequently may impoverish the heath, encouraging a vigorous re-growth of more competitive, fire-resistant species like purple moor-grass, western gorse and bracken. **Given the small amount of development proposed in St David's it is not likely that the LDP will have significant effects on the North West Pembrokeshire Commons SAC through increased risk of burning.** **Drainage**

[10] English Nature (16 May 2006) letter to Runneymede Borough Council, 'Conservation (Natural Habitats &c.) Regulations 1994, Runneymede Borough Council Local Development Framework'.
[11] Levett-Therivel (2006) Appropriate Assessment of the Draft South East Plan. Final Report.
[12] APIS (Accessed on 21/01/09) Site Relevant Critical Loads for North West Pembrokeshire Commons SAC. Available online: http://www.apis.ac.uk/

Site Name: North West Pembrokeshire Commons **Location: SM776273** **Size (ha): 248.89**	**Appropriate Assessment Data Proforma**
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	The CMP identifies that water quantity is a key factor in maintaining site integrity, specifically that peripheral drainage could have implications for the site. Site allocation HA737 is within 200m of management unit 1 and if developed could lead to changes in the hydrological regime. Given the level of proposed development and the mitigation offered by LDP Policies 17 (sustainable design) and 20 (surface water drainage), **it is not likely that the LDP will have significant effects on the drainage at the North West Pembrokeshire Commons SAC.** **Water Quality** The CMP identifies that water quality is a consideration for features such as Floating Water Plantain, populations of RBD vascular plants and Small Red Damselfly. Water quality could potentially be affected by run off from adjoining agricultural land (currently parts of this are under organic management) or via airbourne pollutants as described for air quality. As described for Air Quality, the critical loads for nitrogen and sulphur deposition have not been exceeded at the site and estimates suggest a decrease in deposition by 2010. In addition, given the level of proposed development and the mitigation offered by LDP Policies 17 (sustainable design) and 20 (surface water drainage), **it is not likely that the LDP will have significant effects on water quality at the North West Pembrokeshire Commons SAC**.
Possible Avoidance and Mitigation Measures – includes recommendations for policy/proposals	Policies 17 (sustainable design) and 20 (surface water drainage) should provide sufficient mitigation to minimise potential adverse effects on the hydrological regime at this SAC.
Conclude no adverse effect on integrity?	No adverse effect on integrity.
Recommendations for	None.

Site Name: North West Pembrokeshire Commons **Location: SM776273** **Size (ha): 248.89**	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
Policy/ Proposal	

Site Name: Pembrokeshire Bats and Bosherton Lakes Location: SR976954 Size (ha): 122.59	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
Qualifying Features	**Annex I habitats primary reason for selection:** ▪ Hard oligo-mesotrophic waters with benthic vegetation of *Chara* **Annex II species primary reason for selection:** ▪ Greater horseshoe bat *Rhinolophus ferrumequinum* **Annex II species qualifying feature:** ▪ Lesser horseshoe bat *Rhinolophus hipposideros* ▪ Otter *Lutra lutra*
Conservation Objectives (As defined by CCW, 2008).[13]	**Conservation Objective for Feature 1: Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp.l* Calcium-rich nutrient- poor lakes, lochs and pools.** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Submerged Chara beds (mainly Chara hispida in places up to a metre long) will form the predominant submerged macrophyte vegetation throughout most of Central and Western Arms and Central Lake of Bosherston Lakes (unit 1a) and may be present in the Eastern Arm (unit 1b). ▪ Chara will occur at more than 50% frequency along regular surveillance transects within the Western and

[13] Countryside Council for Wales (CCW). 2008. Core Management Plan including conservation objectives for Pembrokeshire Bats and Bosherton Lakes Special Area of Conservation (SAC). Version10, April 2008.

Site Name: Pembrokeshire Bats and Bosherton Lakes Location: SR976954 Size (ha): 122.59	Appropriate Assessment Data Proforma
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	Central arms. ▪ Chara species (not necessarily hispida) will be present in other embayments and pools, including the Eastern Arm of Bosherston Lakes (unit 1b) and pools in the Mere Pool Valley (unit 1d). ▪ The Western and Central Arms are spring-fed, so nutrient levels here remain low. One of the main nutrients (phosphorous) will reach no more than 25 micrograms per litre in regular sampling areas. Nitrogen levels in the water will be low (less than 1 milligram per litre) and declining or stable. ▪ The Western Arm, Central Arm and Central Lake water will be fairly clear, but well vegetated with submerged and marginal plants. In natural openings (e.g. over springs) within otherwise dense Chara beds, a sechii disk will be viewable on the lakebed. ▪ Water depth will vary from about 3.5 metres OD (winter maximum) to about 0.5 metres or less in places in summer. ▪ Fringing the Chara beds, are beds of white water lilies Nymphaea alba. They will remain fairly abundant in the Western and Central Arms, with smaller populations in Central Lake. ▪ Reed and swamp and fringing burr-reed will be restricted to shallow zones – covering not more than 10 % of the site. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Pembrokeshire Bat Sites and Bosherton Lakes SAC Management Plan. **Conservation Objective for Feature 2: Greater horseshoe bat *Rhinolophus ferrumequinum***

Site Name: Pembrokeshire Bats and Bosherton Lakes Location: SR976954 Size (ha): 122.59	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
	Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The greater horseshoe bat population will be capable of maintaining itself on a long-term basis as a viable component of its natural habitats. ▪ The natural range of greater horseshoe bats will neither be reduced nor will be likely to be reduced for the foreseeable future, and ▪ There will be sufficient habitat to maintain its populations on a long-term basis. ▪ At least three SSSI maternity roosts will be occupied annually by adult greater horseshoe bats and their babies: ▪ Stackpole Courtyard Flats and Walled Garden SSSI ▪ Slebech Stable Yard Loft, Cellars and Tunnels SSSI ▪ Felin Llwyngwair SSSI ▪ Carew Castle SSSI will continue to be used as an intermediate greater horseshoe bat roost, during the spring and autumn, as a male summer roost and an autumn/spring mating roost. ▪ The greater horseshoe bat population at the component SSSI's will be stable or increasing. ▪ There will be a sufficiently large area of suitable habitat surrounding these roosts to support the bat population, including continuous networks of sheltered, broadleaved woodland, tree lines and hedgerows connecting the various types of roosts with areas of insect-rich grassland and open water. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 2 (see performance indicators for feature1)

Site Name: Pembrokeshire Bats and Bosherton Lakes Location: SR976954 Size (ha): 122.59	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
	Conservation Objective for Feature 3: Lesser Horseshoe Bat *Rhinolophus hipposideros* Vision for feature 3 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The Lesser horseshoe bat population will be capable of maintaining itself on a long-term basis as a viable component of its natural habitats. ▪ The natural range of lesser horseshoe bats will be neither being reduced nor will be likely to be reduced for the foreseeable future, and ▪ There will be sufficient habitat to maintain its populations on a long-term basis. ▪ At least four SSSI maternity roosts will be occupied annually by adult lesser horseshoe bats and their babies: ▪ Beech Cottage, Waterwynch SSSI, ▪ Orielton Stable Block and Cellars SSSI, ▪ Park House Outbuildings SSSI, ▪ Stackpole Courtyard Flats and Walled Garden SSSI ▪ The lesser horseshoe bat population at the component SSSI's will be stable or increasing. ▪ There will be a sufficiently large area of suitable habitat surrounding these roosts to support the bat population, including continuous networks of sheltered, broadleaved woodland, tree lines and hedgerows connecting the various types of roosts with areas of insect-rich grassland and open water. ▪ All factors affecting the achievement of these conditions are under control.

Site Name: Pembrokeshire Bats and Bosherton Lakes Location: SR976954 Size (ha): 122.59	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
	Performance indicators for Feature 3 (see performance indicators for feature1) **Conservation Objective for Feature 4: Otter *Lutra lutra*** Vision for feature 4 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The Otter population will be capable of maintaining itself on a long-term basis as a viable component of its natural habitats. ▪ The natural range of otters will neither be reduced nor will be likely to be reduced for the foreseeable future, and ▪ There will be sufficient habitat to maintain its populations on a long-term basis. ▪ The otter population will be stable or increasing. ▪ There will be a sufficiently large area of suitable habitat to support an otter breeding population, including: ▪ Open water with sufficient food resources (notably eels and other fish species) and ▪ a continuous network of undisturbed sheltered resting places along the lake shoreline – including swamp, broadleaved woodland and calcareous scrub. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 4 (see performance indicators for feature1)
Key Environmental Conditions (factors that	**Hard oligo-mesotrophic waters with benthic vegetation of *Chara***

Site Name: Pembrokeshire Bats and Bosherton Lakes Location: SR976954 Size (ha): 122.59	Appropriate Assessment Data Proforma
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maintain site integrity)	▪ **Water quality** - Significant work has been achieved with partners (such as the Environment Agency) to reduce the effects of point sources of nutrients on Bosherston Lakes. Quite low levels of phosphorus (P) are essential to maintain regular clear water conditions and ensure healthy stonewort growth. High phosphate concentrations cause ecological changes. ▪ **Hydrology** o **Natural fluctuations in water levels** - Natural leakage (out of the lake-bed and shoreline) is probably the largest and most difficult issue to deal with. There are several known and probably a considerable number of unknown leaks, in the system. This is due to the Karstic nature of the limestone in this area and its numerous associated joints and fissures. In the longer term, sea level may rise, if so inevitably freshwater in the lower lakes will be more regularly displaced by saline conditions. Ultimately, the freshwater system may retreat and new management policies will have to be considered. In any such event the Conservation Objectives for this feature will obviously have to be revised. o **Anthropogenic influences - ground-water abstraction** - Groundwater abstraction in this area is currently exempt from licensing and so there is no regulatory control. At present there is insufficient information on the number of abstraction points and volumes being abstracted. The Environment Agency (EA) Catchment Abstraction Management Strategy (CAMS) assessment for the Bosherston lakes catchment, within CAMS Unit GWMU1 indicates that "known" abstractions are not having a discernible impact on the lake levels. Leakage from the base of the lakes is the main cause of falling water levels. ▪ **Sediment Load** - Suspended sediments, transporting nutrients from adjacent land outside the SAC/ SSSI boundary flow into the lakes via streams. As well as exacerbating existing eutrophication problems, gradually this is progressively filling in the lake system. ▪ **Fishery management** - Large populations of coarse fish (such as introduced roach for example) can distort the

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	balance between the plant community, nutrient levels and the coarse fish population by eating small microscopic animals (zooplankton) that feed on tiny algae (phytoplankton). **Greater horseshoe bat *Rhinolophus ferrumequinum*** ▪ **Availability of suitable roosts** - Each of these roosts may have a variety of functions - such as being close to favoured feeding areas, used as mating sites, or possibly only used as winter roosts etc). Roost choice and location will also depend on the ambient temperatures each roost provides. The viability of the bat population within the SAC will depend very much on the availability of suitable roosts within a several mile radius of the SAC roosts. This range of different roosts is necessary to maintain populations of these bats, so all the roosts should be kept in a suitable condition for use by them. As with all bat roosts, there should be no modification to the roost, exposure to fumes or harmful/ irritant chemicals, disturbance (by people or animals) or excessive noise, without prior consultation with CCW. ▪ **Availability of bat fly-ways and feeding areas on surrounding land** - Greater horseshoe bats require sheltered unlit cover as they leave their roosts to feed at night. Key radial zones are: o **1km** - Vital to retain wooded areas and vegetation cover (including scrub), and habitat links i.e. woodland, tree lines, hedgerows and even limited sections of walls and fences. All woodland and enclosed vegetation with a few hundred metres of each component SSSI roost is likely to be important to the bats. All woodland, wooded watercourses, hedge lined lanes or even small roads are likely to be key features bats use. To cross some open areas bats may use fences or walls but the use is liable to be limited – most likely where habitat features have been removed in the past. The maintenance of cattle grazed pasture around greater horseshoe roosts should be considered vital in this area. o **1-3km** - Important to maintain hedgerow systems, scrub, wetland or marsh areas, and habitat links. Areas of

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	thick hedgerows or scrub adjacent to cattle grazed pasture are likely to be of highest significance. Virtually all areas containing extensive hedgerows (particularly higher overgrown ones), scrub especially surrounding grazed pasture and/ or wet ground will be important bat foraging areas. The maintenance of these significant areas is vital to maintain the bats foraging areas. o **3-7km** - Areas with thick hedgerows around grazed pasture and pronounced habitat links should be maintained, not all areas will be used. A significant proportion of the most pronounced areas of extensive hedgerows (particularly higher overgrown ones), scrub and wet woodland - especially surrounding pasture and or wet ground will be important to the bats. o **7-16km** - Only a small part of this area is likely to be used for foraging but flight routes may lead further, connecting to other roost sites. Maintenance of pronounced habitat links through the area will be important. Some of the most pronounced areas of extensive hedgerows (particularly higher overgrown ones), scrub and wet woodland - especially surrounding pasture and or wet ground will be important to the bats. These will be difficult to predict without carrying out radio tracking studies. o **All zones** - Sheltered glades, of up to 10-15m across, should also be incorporated along which the bats can feed. Removal of habitat features or increase in night lighting may stop bats from using some routes. Cattle are the most suitable grazers for these grasslands as they produce the best dung for dung beetles, which are among the invertebrates on which the bats feed. ▪ **Lack of Disturbance to roosts – e.g. from fumes, lighting or noise** - As with all bat roosts, there should be no modification to SSSI component roosts, exposure to fumes or harmful/ irritant chemicals, disturbance (by people or animals) or excessive noise, without prior consultation with CCW. Disturbance to the bats can also be caused by extra lighting around roost access points. This may have an effect on the numbers of bats emerging at dusk. There will be a need to maintain liaison with SSSI roost owners and occupiers over these potential

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	issues, taking account of their wishes. **Lesser horseshoe bat *Rhinolophus hipposideros*** ▪ **Availability of suitable roosts, including roosts out-with the SAC** - As for greater horseshoe bat. ▪ **Availability of bat fly-ways and feeding areas on surrounding land** - Lesser horseshoe bats require sheltered unlit cover as they leave their roosts to feed at night. Key radial zones are: o **1 km** - As for greater horseshoe bats. Plus, the maintenance of damp/ wet ground around roosts should be considered vital in this area. o **1-3km** - Hedgerows adjacent to semi improved damp or wet ground are likely to be of highest significance. o **3-7km** - Lesser horseshoe bats: only liable to be important for some of the larger colonies of bats, maintain habitat links through the areas. o **All zones** - As for greater horseshoe bat. ▪ **Disturbance to roosts – e.g. from fumes, lighting or noise** - As for greater horseshoe bat **Otter *Lutra lutra*** ▪ **Food availability** - Without good food availability, breeding may not occur. Previous studies indicate that eels form a high proportion of the otter diet at Bosherston Lakes and that Cyprinids may also be important in their diet.

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	▪ **Anthropogenic mortality** - Otter deaths, e.g. from road casualties, can have a considerable bearing on the structure and viability of the resident population. However, otters may die beyond the SAC/SSSI boundary and may not be seen and recorded. ▪ **Water quality/ water quantity and sediment load** - See Bosherston lakes open water factors above ▪ **Freshwater availability** - Otters from the freshwater Bosherston Lakes system are known to swim and hunt for food along the nearby coastline within the contiguous Pembrokeshire Marine SAC. Otter is also a feature of the Pembrokeshire Marine SAC. Evidence of use of the marine environment will be from spraint surveys, plus direct observation. ▪ **Availability of undisturbed resting places** - Otters require a wide range of lying-up (holt) options within a large territory. These provide secure, undisturbed conditions for the male otter; the female (with or without her cubs); for the cubs (with or without their mother); and for the weaned and independent immatures. Much of the lakes extensive shoreline is relatively inaccessible and undisturbed, and so provides many potentially excellent lying up areas for otters.
Vulnerabilities (includes existing pressures and trends)	▪ The lakes are vulnerable to **drought**, to **nutrient enrichment**, **introduced alien species** and to **siltation**. ▪ Both bat species are vulnerable to **physical deterioration of the buildings** which contain the roosts, to **human disturbance**, and to **habitat loss** and **disturbance within their key feeding areas**. ▪ The breeding otter population is vulnerable to **water pollution**, **human disturbance (including vehicular collisions on roads)**, **entanglement in fishing gear** and **habitat loss**.

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	▪ **Changes in access and recreation** - Bosherston lakes and lakeside footpaths have a high recreational and educational interest and landscape value. Increases in access and recreation pressures may cause erosion of bank-side vegetation, disturbance to other features through and deposition of litter (e.g. fishing line/hooks etc). Fishing points should be maintained regularly to prevent fishing debris becoming entangled in lakeside vegetation and posing a potential threat to other SAC features (i.e. otters).
Predicted Impacts.	**Habitat Loss and Fragmentation** Development proposed by the LDP in Tenby and Newport has the potential to lead to the loss and fragmentation of bat fly-ways and feeding areas used by the greater and lesser horseshoe bats. **Disturbance** Development proposed by the LDP has the potential to increase levels of disturbance (e.g. noise and light pollution) to the greater and lesser horseshoe bats through increased levels of urbanization, traffic, recreation and construction activities. There is also the potential for increased levels of disturbance to the hard oligo-mesotrophic waters and otters that are present in management unit 1 (Stackpole SSSI). The CMP states that "access and recreation pressures are fairly well regulated by on site wardening and information, so rare or sensitive species are reasonably well protected". [14] Given the location and level of development proposed in the LDP and the availability of alternative recreational areas, it is not likely that the LDP alone will have likely significant effects on the hard oligo-mesotrophic

[14] Countryside Council for Wales (CCW). 2008. Core Management Plan including conservation objectives for Pembrokeshire Bats and Bosherton Lakes Special Area of Conservation (SAC). Version10, April 2008.

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	waters and otters through increased levels of disturbance. **Hydrology** Groundwater abstraction in this area is currently exempt from licensing and so there is no regulatory control. The Bosherton Lakes sit within Groundwater Management Unit 1 (GWMU 1) of the Cleddau and Pembrokeshire Coastal Rivers CAMS and are assessed as having 'no water available'. The EA does not think that existing unlicensed groundwater abstractions are adversely affecting the local environment in GWMU 1 and that the main cause of falling water levels is leakage at the base of the lakes. The CMP also identifies that natural leakage out of the lake-bed and shoreline is probably the largest and most difficult issue to deal with. Given these factors and the small level of development proposed, **it is not likely that the LDP will have likely significant effects on the hard oligo-mesotrophic waters either alone or in-combination.**
Potential In-combination effects (screening)	**Habitat Loss and Fragmentation** The following plans and programmes have the potential to lead to habitat loss and fragmentation: ▪ Pembrokeshire CC emerging LDP - development in Pembrokeshire County has the potential to contribute to the loss and fragmentation of bat fly-ways and feeding areas used by the greater and lesser horseshoe bats. ▪ The Trunk Road Forward Programme 2002 - (A40 Penblewin to Slebech Park Improvement) This scheme plans to improve a 9km stretch of the A40 between Penblewin and Slebech Park in Pembrokeshire to single carriageway standard. It incorporates the Preferred Route for the Robeston Wathen Bypass that was published in 1996, removing through traffic from the village of Robeston Wathen and therefore removing the effects of severance caused by trunk road traffic. **Disturbance**

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	The following plans and programmes have the potential to lead to increased levels of recreation and therefore disturbance to the greater and lesser horseshoe bats: ▪ Pembrokeshire CC emerging LDP ▪ Welsh Coastal Tourism Strategy (2007) ▪ Pembrokeshire CC Tourism Strategy 2006-2012 Given that Bosherton Lakes is fairly well regulated for access and recreation and that there are alternative recreational areas available, it is not likely that the LDP will have likely significant effects in-combination on the hard oligo-mesotrophic waters and otters through increased levels of disturbance. **Hydrology** ▪ Pembrokeshire CC emerging LDP - development in Pembrokeshire County has the potential to reduce the water quality of the Cleddau Rivers, which ultimately flow into the Pembrokeshire Marine SA. ▪ Welsh Water (2008) Draft Water Resource Management Plan ▪ Welsh Water (2006) Drought Plan ▪ Environment Agency (2006) The Cleddau and Pembrokeshire Coastal Rivers Catchment Abstraction Management Strategy (CAMS) Given the factors identified previously in the table, it is not likely that the LDP will have likely significant effects in-combination on the hard oligo-mesotrophic waters.
Appropriate Assessment	**Habitat Loss and Fragmentation**

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Likelihood of adverse effect on integrity:	The Pembrokeshire Bat Sites and Bosherston Lakes SAC is underpinned by a series of eight Sites of Special Scientific Interest (SSSI). The component SSSIs are in some cases separated by large distances, Felin Llwyngwair SSSI in the north is over 35km from Beech Cottage, Waterwynch SSSI in the south. Radio-tracking and long-term roost surveillance by bat workers[15] shows that the greater and lesser horseshoe bats from the SAC population disperse over a very wide geographical area of west Wales, utilising at least 100 known different roosts during the year. An important factor in the favourable condition status of the bat populations is the availability of bat fly-ways and feeding areas on surrounding land. Greater and lesser horseshoe bats require sheltered unlit cover as they leave their roosts to feed at night, key radial zones for the bats are provided earlier in the table. The LDP proposes development in Tenby that is less than 1km away from Beech Cottage Waterwynch SSSI, which is a lesser horseshoe bat maternity roost site. Site allocations HA377, HA752 and HA760 lie on the periphery of the settlement boundary between Tenby and the maternity roost site and therefore have the potential to lead to the loss and fragmentation of bat fly-ways and foraging areas. Development is also proposed in Newport, which is less than 1km from Felin Llwyn-gwair SSSI, which is a greater horseshoe bat maternity and roost site. Site allocations MA232 and HA825 lie on the periphery of the settlement boundary between Newport and the maternity roost site and therefore have the potential to lead to the loss and fragmentation of bat fly-ways and foraging areas. This AA involves a strategic level assessment of the likely significant effects of the LDP alone and in-combination on European sites, therefore individual site allocations would be more appropriately assessed at a lower tier of planning. Project level HRA would provide a detailed site level analysis of the importance of the site to the bats, and provide suitable mitigation measures to reduce the adverse effects of the proposed allocation on the greater and lesser horseshoe bat populations. Key considerations are likely to involve avoiding or minimising loss/breaching of linear features (e.g. hedgerows, woodland belts) and appropriate design of site lighting to

[15] Countryside Council for Wales (CCW). 2008. Core Management Plan including conservation objectives for Pembrokeshire Bats and Bosherton Lakes Special Area of Conservation (SAC). Version10, April 2008.

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	maintain 'dark corridors' as far as practicable. Where loss or interruption of linear features is unavoidable, either mitigation should be provided and/or any gaps kept to a width of 10m or less. Detailed ecological analysis of site allocations has begun to be carried out by PCNPA ecologists[16]. Given that the level of development proposed within the LDP is minimal and the current condition status of the greater and lesser horseshoe bats is favourable: maintained, **it is not likely that the LDP will have likely significant effects on the Pembrokeshire Bat Sites and Bosherton Lakes SAC through the loss and fragmentation of bat fly-ways and foraging areas.** **Disturbance** The greater and lesser horseshoe bats are both vulnerable to disturbance at roost sites from fumes, for example from fumes, lighting and noise. As outlined above development proposed in Tenby and Newport is within 1km of maternity roost sites and therefore have the potential to lead to increased levels of disturbance. This AA involves a strategic level assessment of the likely significant effects of the LDP alone and in-combination on European sites, therefore individual site allocations would be more appropriately assessed at a lower tier of planning. Project level HRA would provide a detailed site level analysis of the potential impacts of that development on the bat populations, and provide suitable mitigation measures to reduce potential increases in noise and light pollution as a result of the development. Given that that the maternity roosts are already within 1km of existing settlements and the current condition status of the greater and lesser horseshoe bats is favourable: maintained, **it is not likely that the LDP will have likely significant effects on the Pembrokeshire Bat Sites and Bosherton Lakes SAC through increased levels of disturbance to the maternity roosts.**

[16] PCNPA (received 13/01/09 and 19/01/09) Notes on site visits to Manorbier Station and Newport.

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Possible Avoidance and Mitigation Measures – includes recommendations for policy/proposals	The LDP contains strong policies in regard to the protection of biodiversity and habitats (Policy 45 and 48). Building conversion can be a significant issue where old/ disused buildings are valuable for bats; the supporting text of Policy 6 (Countryside) takes account of protected species and nature conservation in the conversion of buildings. The greater horseshoe bat is extremely sensitive to light; the supporting text of Policy 46 (Light Pollution) acknowledges the potential for lighting schemes to adversely affect the integrity of Natura 2000 sites where development coincides with roost sites/transit routes.
Conclude no adverse effect on integrity?	No adverse effect on site integrity as the development proposed in the LDP is within existing settlement boundaries and the current condition status of the greater and lesser horseshoe bats is favourable: maintained.
Recommendations for Policy/ Proposal	None.

Site Name: Pembrokeshire Marine **Location: SR885969** **Size (ha): 138069.45**	**Appropriate Assessment Data Proforma**
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Qualifying Features	**Annex I habitats primary reason for selection:** ▪ Estuaries; ▪ Large shallow inlets and bays; ▪ Reefs **Annex I habitats qualifying feature:** ▪ Sandbanks which are slightly covered by sea water all the time; ▪ Mudflats and sandflats not covered by seawater at low tide; ▪ Coastal lagoons * Priority feature ▪ Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) ▪ Submerged or partially submerged sea caves **Annex II species primary reason for selection:** ▪ Grey seal *Halichoerus grypus* ▪ Shore dock *Rumex rupestris* **Annex II species qualifying feature:** ▪ Sea lamprey *Petromyzon marinus* ▪ River lamprey *Lampetra fluviatilis* ▪ Allis shad *Alosa alosa* ▪ Twaite shad *Alosa fallax* ▪ Otter *Lutra lutra*

Site Name: Pembrokeshire Marine **Location: SR885969** **Size (ha): 138069.45**	**Appropriate Assessment Data Proforma**
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Conservation Objectives (As defined by CCW, 2008).[17]	**Objectives for the qualifying habitats are:** ▪ To maintain at favourable conservation status their natural ranges and areas covered, the structures and functions necessary for the long-term maintenance of same, and the conservation status of their typical species on a long-term basis. **Objectives for the qualifying species are:** ▪ To maintain at favourable conservation status their long-term population viability, natural ranges and the structures and functions of their habitats within the site.
Key Environmental Conditions (factors that maintain site integrity)	Annex I marine habitats within the Pembrokeshire Marine SAC are: ▪ extremely heterogeneous ▪ subject to extremely wide range and variation of structural and functional processes ▪ extremely diverse ▪ either relatively little degraded by human action and/ or are the outcome of natural processes following human perturbation or alteration of habitat structure or function Many characteristics have been identified as being important to the Pembrokeshire Marine habitat features. For the most part, it was the scientific quality and extent of the typical, or highly valued but typifying components which contributed to the site being selected for that feature; in summary: ▪ physical entity of habitat, integrity of habitat structure and the large extent of habitats

[17] Countryside Council for Wales (CCW). 2005. Pembrokeshire Marine European Marine Site Regulation 33 Advice. Version 1.0, April 2005.

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	▪ extremely wide range of habitat variation ▪ extremely wide range of functional processes ▪ relatively limited human modification of the above ▪ species and community diversity; ▪ the large extent of many communities; ▪ the high quality of many of the communities, species populations and assemblages resulting from the relatively limited human modification of distribution and extent of habitat and structural and functional processes ▪ species populations of particular conservation importance because of their rarity, ecological importance, high diversity or abundance or bio-geographical distribution (notably isolated edge of range populations) Habitat features comprise multiple components of varying individual scale, distribution, significance, quality and sensitivity but all of which in combination, contribute to overall importance and quality of one or more features. High habitat and biological diversity is of primary importance throughout the site, and notably in the reefs habitat and in the ria-estuary of Milford Haven. The extent, distribution and quality of both abiotic and biotic components are vitally important. The site's location at a biogeographical boundary between northern and southern species distributions, the many rare, scarce or unusual habitats, communities, species, and the pre-existence of areas with UK designations for their marine biological importance all contribute to the site's importance. The features are characterised by complex interrelationships not only within, but also between the habitat features - many habitats are encompassed within the shallow inlets and bays and estuaries habitat features and there is significant overlap of components contributing to both marine inlets and estuaries.
Vulnerabilities (includes existing pressures and trends)	▪ **Water quality** issues such as those associated with dredge-spoil disposal. These are kept under review through liaison with the Environment Agency, Ministry of Agriculture, Fisheries and Food and Milford Haven Port Authority.

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	▪ **Pollution** originating from the transport or exploration/production of oil and gas are of concern. Management of shipping using Milford Haven following the Sea Empress oil-spill in 1996 has improved and will be kept under review by the Port Authority. ▪ **Commercial fishing** - Marine communities are vulnerable to damage by certain fishing methods. ▪ **Recreational pressures** - including gathering of firewood and kindling, could affect intertidal features.
Predicted Impacts.	**Water Quality** The Deposit Plan proposes development in a number of locations that are in close proximity to the SAC in St David's, Solva and a number of rural locations. Potential impacts arising as a result of the proposed development include increased pressure on sewerage system capacity/ flow. This could lead to potentially significant effects on the SAC through reduced water quality. **Disturbance** The Deposit Plan proposes development in a number of locations that are in close proximity to the SAC in St David's, Solva and a number of rural locations. Potential impacts arising as a result of the proposed development include increased levels of recreation, which could lead to potentially significant effects on the SAC through increased disturbance.
Potential In-combination effects (screening)	**Water Quality** The following plans and programmes have the potential to act in-combination with PCNPA LDP and have significant effects on the Pembrokeshire Marine SAC:

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	▪ Pembrokeshire CC emerging LDP - development in Pembrokeshire County has the potential to reduce the water quality of the Cleddau Rivers, which ultimately flow into the Pembrokeshire Marine SA. ▪ Welsh Water (2008) Draft Water Resource Management Plan ▪ Welsh Water (2006) Drought Plan ▪ Environment Agency (2006) The Cleddau and Pembrokeshire Coastal Rivers Catchment Abstraction Management Strategy (CAMS) **Disturbance** The following plans and programmes have the potential to increase recreational activity and therefore increase the level of disturbance: ▪ Welsh Coastal Tourism Strategy (2007) ▪ 'Catching the Wave' - A Watersports Tourism Strategy for Wales (2004) ▪ A Strategic Plan for Water-related Recreation in Wales (2008) ▪ Pembrokeshire CC Tourism Strategy 2006-2012
Appropriate Assessment Likelihood of adverse effect on integrity:	**Water Quality** The Pembrokeshire Marine SAC extends from just north of Abereiddy on the north Pembrokeshire coast to just east of Manorbier in the south and includes the coast of the islands of Ramsey, Skomer, Grassholm, Skokholm, the Bishops and Clerks and The Smalls. The Deposit Plan proposes development in a number of locations that are in close proximity to the SAC in St David's, Solva and a number of rural locations. Potential impacts arising as a result of the proposed development include increased pressure on sewerage system capacity/ flow. This could lead to potentially significant effects on the SAC through reduced water quality. As top predators, seals and otters are

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	prone to accumulation of contaminants present within their food chains. The HRA Screening Report (December 2008) identified a number of site allocations that had the potential - using the precautionary principle - to put increased pressure on sewerage capacity/ flow. The assessments were based on a range of information, which included comments from statutory consultees on the individual site allocations. A number of these comments from EAW and Welsh Water stated that suitable infrastructure was not present to meet the level of development proposed at particular sites. For example, site allocation HA733 in St Ishmael's proposes the development of 46 new dwellings and was screened in as the EAW's consultation response expressed concerns about localised drainage problems. The current level of development proposed in the LDP is not likely to significantly increase the level of water abstractions in the Cleddau and Pembrokeshire Coastal Rivers Catchment. However, the emerging Pembrokeshire CC LDP could have the potential to propose development that will act in-combination with the PCNPA LDP. As the Pembrokeshire CC LDP is still in the early stages it is difficult to assess the potential in-combination effects as no spatial development proposals have yet emerged. The Eastern and Western Cleddau rivers provide most of the domestic water supply for Pembrokeshire, as well as providing water for industry and agriculture. This water is used by the water company, Welsh Water, to supply most of Pembrokeshire with its domestic water supply in addition to some of the major industry in the area. The Cleddau and Pembrokeshire Coastal Rivers Catchment Abstraction Management Strategy (CAMS) has 5 surface water units (WRMU) as well as numerous groundwater management units (GWMU). The CAMS assesses that WRMU 1 (Western Cleddau) has 'no water available' and that WRMU 2 (Eastern Cleddau) is 'over licensed'. Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications (Review of Consents - RoC) to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license. This could involve the issue of a license with

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	conditions attached, such as a 'Hands-Off Flow' condition. This specifies that if the flow or level in the river drops below that which is required to protect the environment the abstraction must stop. The HRA of Welsh Water's Draft Water Resource Management Plan (Nov 2008) states that "accurate assessment of exposure (and therefore vulnerability)", of a European site "can only be achieved through detailed studies in the RoC process, informed by the site knowledge of the CCW local teams and officers"[18]. Therefore it cannot be concluded that there will be no likely significant effect on the Pembrokeshire Marine SAC if the dWRMP is implemented. The HRA suggests that appropriate caveats be included within the existing dWRMP to help ensure that no significant effects are likely as a result of its implementation. Welsh Water's (21/07/08) response to the LDP site allocations consultation states that, "based on future demands already shared with us we do not foresee any problems at present in meeting the anticipated domestic demands during the life of the Local Development Plan". According to the Cleddau and Pembrokeshire Coastal Rivers CAMS most of the rivers surveyed for water quality have either 'very good' or 'good' chemical and biological quality. Water quality in the Western and Eastern Cleddau is generally excellent, with 100% of classified stretches falling within River Ecosystem classifications 1('very good') or 2 ('good'). The coastal waters within the Pembrokeshire Marine SAC have been assessed by the EA as having good ecological quality status and high chemical quality status[19]. The EA predicts that by 2015 the ecological quality of the coastal waters will be maintained at good status. The chemical quality however is predicted to decrease from high to good status by 2015. This AA is a strategic level assessment of the likely significant effects of the LDP (both alone and in-combination) on European sites, therefore individual site allocations would be more appropriately assessed at a lower tier of

[18] Welsh Water (2008) HRA of the Draft Water Resource Management Plan. Available online: http://www.dwrcymru.com/English/Company/Operations/resources/wrmp/index.asp

[19] Environment Agency (Accessed 22/01/09) What's in Your Backyard? Available online: http://maps.environment-agency.gov.uk/wiyby/wiybyController?extraClause=RIVER_NAME~'Usk'

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Designation:	**SAC**
	planning. Project level HRA would provide a detailed site level analysis of the potential impacts of that development on the Pembrokeshire Marine SAC, and provide suitable mitigation measures to reduce potential adverse effects on water quality. The LDP contains strong policies in regard to sustainable design (Policy 17) and surface water drainage (Policy 20) that will help to mitigate the adverse impacts of development on the water environment. Within the supporting text of policy 17 it is stated that adequate sewage disposal facilities and surface water drainage capacity must be available before the development can be occupied. This addresses concerns that were highlighted in the HRA Screening Report (Dec 2008) in relation to certain site allocations not having adequate sewerage system capacity. Given the current biological and chemical water quality of coastal waters within the SAC and the mitigation provided by policies within the LDP, which includes the provision of adequate infrastructure before a development is inhabited, **it is not likely that the LDP will have likely significant effects on water quality in the Pembrokeshire Marine SAC either alone or in-combination.** **Disturbance** The development proposed in the LDP along with the promotion of tourism in the region has the potential to increase recreational activities. Activities include bait collecting which can cause physical disturbance to the intertidal mud and sandflats and is a particular issue at collection 'hotspots'. Water based recreation - which includes jet skis, hovercraft, wildlife boat trips and water skiers/ wake boarders - causes disturbance to protected species, such as the seal and otter. Recreational sea angling can have indirect impacts on the SAC through lost/ discarded gear and litter upon the SAC features.

[20] CCW (2005) Pembrokeshire Marine European Site Regulation 33 advice. Available online: http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/special-sites-project/reg-33-plans.aspx

Site Name: Pembrokeshire Marine **Location: SR885969** **Size (ha): 138069.45**	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
	The South West Wales Recreation Audit (2005) identified that 28% of day visitors to the PCNP lived in or are within easy reach of the Park and most of the remainder came from other parts of Wales. The majority of holidaymakers (53%) were on holidays described as 'driving around and visiting places' or 'quiet relaxation, staying in one place for most of the holiday'. A quarter (25%) were on 'moderately active' holidays and 12% were on a 'holiday by the sea'. A small proportion described their holidays as 'active most of the time spent doing sports or active recreation'. For day visitors short walks were the most common activity (28%), followed by going to the beach (17%), driving around and sightseeing from the car (12%), sitting and relaxing (10%), taking part in (other) outdoor sports (5%), pursuing a hobby or special interest (2%) and studying nature (1%). The audit identifies that a chief impact on nature conservation is the danger to seals from anglers casting from cliffs, however it is concluded that the growth of sea angling in South West Wales is likely to be constrained by low fish stocks in the area. The Regulation 33 advice for Pembrokeshire Marine SAC[20] states - in relation to the grey seal - that, "there is no evidence to suggest pup survival is in significantly modified by human action within the site; however, disturbance by human presence and activity, entanglement in anthropogenic debris and welfare intervention are known risks but unquantified impacts". The risk of disturbance from human activity to the otter is concentrated in residential and urban areas. The magnitude of the impact is reduced through the times of day favoured by the otter for activity (early morning and dusk) as the amount of interaction is minimised. The Deposit LDP proposes a relatively small level of development across the entire plan area during the life of the plan (971 new dwellings); therefore the increase in recreational activity as a result of the LDP is likely to be minimal. It also contains strong policies in regard to the protection of biodiversity and habitats, which have been linked to the visitor economy (Policy 23) through the special qualities of the Park (Policy 45). Given the level of development proposed and the protection and mitigation measures provided within the LDP, **it is not likely that the LDP will have likely significant effects on the Pembrokeshire Marine SAC either alone or in-combination through increased levels of disturbance.**
Possible Avoidance and	Policy 23 (Visitor Economy) ensures that activities which would damage the special qualities of the National Park will not be permitted, which is then linked to Policy 45 (Special Qualities).

Site Name: Pembrokeshire Marine **Location: SR885969** **Size (ha): 138069.45**	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
Mitigation Measures – includes recommendations for policy/proposals	
Conclude no adverse effect on integrity?	No adverse effect on integrity as the level of development proposed in the LDP is small and there is suitable protection and mitigation measures provided within Plan policies.
Recommendations for Policy/ Proposal	None.

Site Name: St David's **Location: SM728285** **Size (ha): 935.47**	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
Qualifying Features	**Annex I habitats primary reason for selection:** ▪ Vegetated sea cliffs of the Atlantic and Baltic coasts; ▪ European dry heaths **Annex II species primary reason for selection:** ▪ Floating water-plantain *Luronium natans*
Conservation Objectives (As defined by CCW, 2008).[21]	**Conservation Objective for Feature 1: Vegetated sea cliffs of the Atlantic and Baltic coasts - Maritime Cliff and Crevice vegetation** Vision for Maritime Cliff and Crevice vegetation The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Cliff and crevice vegetation will occur naturally on suitable cliff sections throughout the site. ▪ The vegetation will be composed of native plants such as sea spurrey *Spergularia rupicola* and sea *samphire Crithmum maritimum*. ▪ The establishment of non-native plants such as Hottentot fig *Carpobotus edulis* will be discouraged. ▪ The factors affecting the feature are under control Performance indicators for Maritime Cliff and Crevice vegetation The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and

[21] Countryside Council for Wales (CCW). 2008. Core Management Plan including conservation objectives for St David's Special Area of Conservation (SAC). Version 10, April 2008.

Site Name: St David's Location: SM728285 Size (ha): 935.47	Appropriate Assessment Data Proforma
Designation:	**SAC**
	projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the St David's SAC Management Plan. **Conservation Objective for Feature 2: Vegetated sea cliffs of the Atlantic and Baltic coasts - Maritime Grassland vegetation** Vision for Maritime Grassland The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Maritime Grassland will occupy at least x% of the total site area (to be set). ▪ The following plants will be common in the maritime grassland: thrift *Armeria maritima*; spring squill *Scilla verna* and sea plantain *Plantago maritima* ▪ Competitive species indicative of under-grazing, particularly cocksfoot *Dactylis glomerata*, bracken *Pteridium aquilinum* and western gorse *Ulex gallii* will be kept in check. ▪ The factors affecting the feature are under control. Performance indicators for maritime grassland The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the St David's SAC Management Plan. **Conservation Objective for Feature 3: Vegetated sea cliffs of the Atlantic and Baltic coasts - Maritime Heathland vegetation** Vision for Maritime Heathland

Site Name: St David's Location: SM728285 Size (ha): 935.47	Appropriate Assessment Data Proforma
Designation:	**SAC**
	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Maritime heathland will occupy at least x% of the total site area (to be set). ▪ The following plants will be common in the maritime heathland: heather *Calluna vulgaris*; bell heather *Erica cinerea* and spring squill *Scilla verna*. ▪ Competitive species indicative of under-grazing, particularly bracken *Pteridium aquilinum* and gorse *Ulex europaeus* will be kept in check. ▪ The factors affecting the feature are under control **Conservation Objective for Feature 4: European Dry Heath (4030)** Vision for Dry Heath The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Dry Heath will occupy areas of the site where heathland extends beyond the zone of maritime influence and lacks the species characteristic of maritime heath as a result ▪ Much of the dry heath will be short and open. ▪ The factors affecting the feature are under control **Conservation Objective for Feature 5: Floating Water Plantain *Luronium natans*** Vision for Floating Water Plantain

Site Name: St David's **Location: SM728285** **Size (ha): 935.47**	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ At least one population is well established. ▪ This population covers at least 15 square metres in two or more separate pools. ▪ Current areas of open water to be maintained on Ramsey; other pool habitats within the SAC to be kept in a suitable state for Luronium where possible. ▪ The factors affecting the feature are under control
Key Environmental Conditions (factors that maintain site integrity)	**Vegetated sea cliffs of the Atlantic and Baltic coasts: Maritime Cliff and Crevice Vegetation** ▪ **Coastal Erosion processes** - feature is maintained by natural processes. **Vegetated sea cliffs of the Atlantic and Baltic coasts: Maritime Grassland** ▪ **Livestock grazing** - The more exposed, seaward areas of maritime grassland are maintained by 'natural' environmental factors - including exposure to salt spray, thin soils and climatic extremes. Further away from the cliff edges, the maritime grassland vegetation has been maintained by traditional grazing practices. Without an appropriate grazing regime, it would become rank and turn to bracken, bramble or gorse scrub. Light grazing by animals - ideally cattle in summer or ponies throughout year - is key to maintaining these areas. **Vegetated sea cliffs of the Atlantic and Baltic coasts: Maritime Heathland & European Dry Heath** ▪ **Livestock grazing** - The more exposed, seaward areas of maritime heathland are maintained by 'natural' environmental factors - including exposure to salt spray, thin soils and climatic extremes. Further away from the cliff edges, the heathland vegetation has been maintained by traditional grazing practices. Without an appropriate grazing regime, it would become rank and turn to gorse scrub. Light grazing by animals - ideally

Site Name: St David's Location: SM728285 Size (ha): 935.47	Appropriate Assessment Data Proforma
Designation:	**SAC**
	cattle in summer or ponies throughout year - is key to maintaining these areas. **Floating Water Plantain** ▪ **Livestock grazing** - The pools need to be kept open, and grazing animals are key to this. Regular pool edge disturbance by grazing deer and, more recently, ponies has maintained ideal conditions for floating water plantain here. ▪ **Water Quantity** - Pools must remain at least seasonally wet. Water flows are being protected and enhanced where possible - the plant has colonised new pools created for breeding lapwings *Vanellus vanellus* in recent years. ▪ **Water Quality** - Water quality is protected by the island context and the setting of the pools amongst permanent, low fertility habitats. The pools are unlikely to be affected by pollutants but could be vulnerable to eutrophication caused by roosting birds such as gulls. ▪ **Non-native plants** - Vigilance should be maintained to ensure that *Crassula helmsii* and other invasive alien plants do not become established in pools on Ramsey and elsewhere in the SAC.
Vulnerabilities (includes existing pressures and trends)	**Vegetated sea cliffs of the Atlantic and Baltic coasts: Maritime Cliff and Crevice Vegetation** ▪ **Pollution** - Oil spills and other pollution episodes may cause short-term damage. ▪ **Recreational Impacts** - Localised impacts of climbing and coasteering. **Vegetated sea cliffs of the Atlantic and Baltic coasts: Maritime Grassland** ▪ **Burning** - can damage the vegetation, invertebrates and soil structure and encourages a vigorous re-growth of

Site Name: St David's Location: SM728285 Size (ha): 935.47	Appropriate Assessment Data Proforma
Designation:	**SAC**
	more competitive, fire-resistant species like bracken. **Vegetated sea cliffs of the Atlantic and Baltic coasts: Maritime Heathland & European Dry Heath** ▪ **Burning** - Regular burning takes place on some sections, some of it as part of controlled management programmes. If not used properly and backed by an appropriate grazing regime, it can lead to a vigorous re-growth of competitive, fire-resistant species like western gorse. ▪ **Pollution** - The heath could be affected by airborne pollutants such as nitrous oxides from vehicle exhausts. **Floating Water Plantain** ▪ **Water Quality** - The pools are unlikely to be affected by pollutants but could be vulnerable to eutrophication caused by roosting birds such as gulls. A negative factor that could become significant is the spread of *Crassula helmsii* in the St. David's area; there is some potential for the habitat to become unsuitable through guanotrophication if the water bodies become attractive to roosting gulls or other seabirds. ▪ **Non-native plants** - Vigilance should be maintained to ensure that *Crassula helmsii* and other invasive alien plants do not become established in pools on Ramsey and elsewhere in the SAC.
Predicted Impacts.	The level of housing and employment development proposed in St David's and Solva is not likely to significantly increase recreational activity at this site alone. **The Screening Report assessed that alone the PCNP Deposit LDP is not likely to have significant effects on the St David's SAC.**
Potential In-combination effects (screening)	**Recreational Disturbance** The following plans and programmes have the potential to increase recreation levels and therefore disturbance:

Site Name: St David's Location: SM728285 Size (ha): 935.47	Appropriate Assessment Data Proforma
Designation:	**SAC**
	▪ Pembrokeshire CC emerging LDP - development in Pembrokeshire County has the potential to increase recreational activity. This could potentially lead to significant effects through increased recreational disturbance on the Vegetated Sea Cliffs. ▪ Welsh Coastal Tourism Strategy (2007) ▪ 'Catching the Wave' - A Watersports Tourism Strategy for Wales (2004) ▪ A Strategic Plan for Water-related Recreation in Wales (2008) ▪ Pembrokeshire CC Tourism Strategy 2006-2012 The Regional Transport Plan seeks to improve the efficient, reliable and sustainable movement of people and freight as well as reducing the contribution of transport to greenhouse gas emissions. This will help to mitigate or offset any increase in diffuse air pollution as a result of this Plan. Strategies could lead to increased levels of tourism and employment, which could result in increased levels of recreational pressure and increased emissions. There is potential for significant effects on St David's SAC through increased recreational disturbance on the Vegetated Sea Cliffs and increased levels of airborne pollution for which the heath is vulnerable. Potential for cumulative impacts from increased levels of development and promotion of tourism in the region. This could lead to increased levels of disturbance on the Vegetated Sea Cliffs (localised impacts of climbing and coasteering).
Appropriate Assessment Likelihood of adverse effect on integrity:	**Recreation** The CMP only identifies the Maritime Cliff and Crevice Vegetation feature as being susceptible to recreational

Site Name: St David's Location: SM728285 Size (ha): 935.47	Appropriate Assessment Data Proforma
Designation:	**SAC**
	pressure (localised impacts of climbing and coasteering). The condition status of this feature was assessed as favourable: maintained in 2005. The level of development proposed in the LDP and Pembrokeshire County[22] including the promotion of tourism in the region through various strategies is unlikely to significantly increase this form of recreational activity (climbing and coasteering) on the Maritime Cliff and Crevice Vegetation. The PCNP contains a range of alternative locations for climbing and coasteering, such as at Abercastle and various other locations along the 258 miles of coastline. Climbing restrictions are in place in the St David's Head Area from the 1st of February to the 1st of August to protect nesting birds[23]. These restrictions will inherently therefore help to protect certain areas of the Maritime Cliff and Crevice Vegetation from the impacts of climbing. **Taking all these factors into account it is assessed that the LDP is not likely to have significant effects on the St David's SAC either alone or in-combination through increased recreational activity.** **Air Quality** The CMP identifies that the Maritime Heath "could be affected by airborne pollutants such as nitrous oxides from vehicle exhausts". The LDP proposes the development of 143 dwellings and 1.67ha of employment land in St David's and Solva which has the potential to increase traffic along the A487. The A487 is within 500m of the St David's SAC, however, based on Natural England advice to Runnymede Borough Council on traffic-related air pollution[24] and the HRA of the SE Plan[25], it is generally felt that air pollution only needs to be considered at a site if a road carrying a significant proportion of new traffic related to the plan runs within 200 meters of a European site. The proposed level of development in the area is not likely to significantly increase the level of traffic along the A487.

[22] Pembrokeshire County Council LDP is still under development. Current known development and housing allocations are contained within the Adopted (2006) Joint Unitary Development Plan for Pembrokeshire. Available online: http://www.pembrokeshire.gov.uk/content.asp?nav=109&parent_directory_id=646&id=5058

[23] PCNPA Website. Climbing. Available online: http://www.pcnpa.org.uk/website/default.asp?sid=186&CATID=2&InitApp=True

[24] English Nature (16 May 2006) letter to Runneymede Borough Council, 'Conservation (Natural Habitats &c.) Regulations 1994, Runneymede Borough Council Local Development Framework'.

[25] Levett-Therivel (2006) Appropriate Assessment of the Draft South East Plan. Final Report.

Site Name: St David's **Location: SM728285** **Size (ha): 935.47**	**Appropriate Assessment Data Proforma**
Designation:	**SAC**
	Air Quality data shows that in 2003, nitrogen and sulphur deposition did not exceed critical loads at this site and it is estimated that by 2010 nitrogen and sulphur deposition will have decreased even further[26]. The condition status of the Maritime Heathland and Dry Heath is unfavourable recovering, mainly due to site level management issues such as grazing and gorse control. Given that the A487 is over 200m from the SAC and air quality at the site is expected to improve, **it is not likely that the LDP will have significant effects on the St David's SAC either alone or in-combination through increased levels of airborne pollution.**
Possible Avoidance and Mitigation Measures – includes recommendations for policy/proposals	Policies 45 (Special Qualities) and 48 (biodiversity) provide strong protection in regard to biodiversity and habitats.
Conclude no adverse effect on integrity?	No adverse effect on integrity given the availability of alternative recreational areas and the improving trend in air quality.
Recommendations for Policy/ Proposal	None.

[26] APIS (Accessed on 21/01/09) Site Relevant Critical Loads for St David's SAC. Available online: http://www.apis.ac.uk/

Site Name: Ramsey and St David's Peninsula Coast **Location (Lat & Long):** **51 54 30 N** **05 18 12 W** **Size (ha): 845.63**	**Appropriate Assessment Data Proforma**
Designation:	**SPA**
Qualifying Features	**Article 4.1 Qualification (79/409/EEC)** During the breeding season the area regularly supports: ▪ Pyrrhocorax pyrrhocorax at least 3.2% of the GB breeding population

Site Name: Ramsey and St David's Peninsula Coast **Location (Lat & Long):** **51 54 30 N** **05 18 12 W** **Size (ha): 845.63**	**Appropriate Assessment Data Proforma**
Designation:	**SPA**
Conservation Objectives (As defined by CCW, 2008).[27]	**Conservation Objective for Feature 6: Chough *Pyrrhocorax pyrrhocorax*** The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The breeding population of Chough is at least 11 pairs ▪ Breeding success averages at least 2.5 chicks/pair ▪ Sufficient suitable habitat is present to support the populations ▪ The factors affecting the feature are under control Performance indicators for Feature 6 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the St David's SAC Core Management Plan, which includes the Ramsey and St David's Peninsula Coast SPA.
Key Environmental Conditions (factors that	▪ **Extent and Quality of habitats** - continued well being of chough and peregrine depends upon the adequate provision of feeding and breeding habitat and absence of serious disturbance from humans. The Maritime

[27] Countryside Council for Wales (CCW). 2008. Core Management Plan including conservation objectives for St David's Special Area of Conservation (SAC). Version 10, April 2008.

Site Name: Ramsey and St David's Peninsula Coast Location (Lat & Long): 51 54 30 N 05 18 12 W Size (ha): 845.63	Appropriate Assessment Data Proforma
Designation:	**SPA**
maintain site integrity)	grassland feature within the St David's Coast SAC is used for foraging and must achieve favourable condition. The National Trust and other landowners, with financial help from CCW management agreements and the ESA scheme, have re-introduced traditional grazing of coastal slopes, safeguarding and extending the chough's short sward feeding grounds. On Ramsey the RSPB's management benefits both species. Here, reduction in rabbit grazing due to Rabbit Viral Haemorrhagic Disease is a problem and any decline in the quality and extent of feeding grounds due to lack of grazing will have to be compensated for by habitat management (eg grazing by sheep).
Vulnerabilities (includes existing pressures and trends)	▪ **Disturbance** - The site is subject to recreational pressure, particularly from tourists walking the coast path. The impact of this disturbance is minimised by most of the nest sites being on inaccessible high cliffs, and by the numbers of visitors to Ramsey being strictly limited.
Predicted Impacts.	**Recreation** The level of housing and employment development proposed in St David's and Solva is not likely to significantly increase recreational activity at this site alone. **The Screening Report assessed that alone the PCNP Deposit LDP is not likely to have significant effects on the Ramsey and St David's Peninsula Coast SPA.**
Potential In-combination effects (screening)	**Recreation** The following plans and programmes have the potential to increase recreation levels and therefore disturbance to the chough: ▪ Pembrokeshire CC emerging LDP - development in Pembrokeshire County has the potential to increase

Site Name: Ramsey and St David's Peninsula Coast Location (Lat & Long): 51 54 30 N 05 18 12 W Size (ha): 845.63	Appropriate Assessment Data Proforma
Designation:	**SPA**
	recreational pressure. This could potentially lead to significant effects through increased recreational disturbance to the chough. ▪ Welsh Coastal Tourism Strategy (2007) ▪ 'Catching the Wave' - A Watersports Tourism Strategy for Wales (2004) ▪ A Strategic Plan for Water-related Recreation in Wales (2008) ▪ Pembrokeshire CC Tourism Strategy 2006-2012 Strategies could lead to increased levels of tourism and employment, which could result in increased levels of recreational pressure. **There is potential for likely significant effects on Ramsey and St David's Peninsula Coast SPA through increased recreational disturbance to the chough.**
Appropriate Assessment Likelihood of adverse effect on integrity:	**Recreation** PCNP has 258 miles of coastline the majority of which can be used for recreational activities, such as walking along the Pembrokeshire Coast Path, which covers 186 miles. Given the large availability of alternative areas for people to recreate, it is unlikely that the development proposed in the Deposit LDP, Pembrokeshire County and the tourism strategies identified above would result in significant increases in recreational activity along the coast at Strumble Head, St David's Peninsula Coast and Ramsey Island. No condition status for the SPA was available within the Core Management Plan, however, the Pembrokeshire Local BAP contains a Species Action Plan[28] for the chough, which assesses that the current condition of the

[28] Pembrokeshire County Local BAP. Species Action Plan: Chough. Available online: http://www.pembrokeshire.gov.uk/content.asp?nav=646&parent_directory_id=646&id=4938&language=

Site Name: Ramsey and St David's Peninsula Coast Location (Lat & Long): 51 54 30 N 05 18 12 W Size (ha): 845.63	Appropriate Assessment Data Proforma
Designation:	**SPA**
	chough population is considered to be unfavourable. This condition assessment is for the chough population across the whole of Pembrokeshire County and so does not represent the condition status of the Ramsey and St David's Peninsula Coast SPA. The Core Management Plan for the St David's SAC (which includes Ramsey and St David's Peninsula Coast SPA) states that the impact of recreational disturbance on the Chough is minimised as the majority of nest sites are situated on inaccessible high cliffs and the numbers of visitors to Ramsey is strictly limited. Climbing restrictions are already in place at the St David's Head Area from the 1st of February to the 1st of August to protect nesting birds[29]. Taking this into account **it is not likely that there will be any direct significant effects on the chough as a result of increased recreational disturbance.** However, there is potential for indirect effects through recreational disturbance to the chough at their feeding grounds. The assessment of the likely significant effect of increased recreational disturbance on this SPA is closely related to the assessment conclusions of St David's SAC. The Core Management Plan identifies that the Maritime Grassland feature within St David's SAC is an important foraging habitat used by the chough. Therefore, if the assessment of St David's SAC concludes that there is likely significant effect on the Maritime Grassland feature; there is then the potential for likely significant effect to the chough.
Possible Avoidance and	The LDP contains strong policies in regard to the protection of biodiversity and habitats.

[29] PCNPA Website. Climbing. Available online: http://www.pcnpa.org.uk/website/default.asp?sid=186&CATID=2&InitApp=True

Site Name: Ramsey and St David's Peninsula Coast **Location (Lat & Long):** **51 54 30 N** **05 18 12 W** **Size (ha): 845.63**	**Appropriate Assessment Data Proforma**
Designation:	**SPA**
Mitigation Measures – includes recommendations for policy/proposals	Climbing restrictions are in place at the St David's Head Area from the 1st of February to the 1st of August to protect nesting birds[30].
Conclude no adverse effect on integrity?	No adverse effect on integrity as the majority of nest sites are situated on inaccessible high cliffs and the numbers of visitors to Ramsey are strictly limited and there are climbing restrictions already in place to protect nesting birds.
Recommendations for Policy/ Proposal	None.

[30] PCNPA Website. Climbing. Available online: http://www.pcnpa.org.uk/website/default.asp?sid=186&CATID=2&InitApp=True