



CONTRACT WWB/02/07

# NATURAL CAPITAL AUDIT

## 2: APPENDICES

*Collation of summarised information on biodiversity and the wider environment to assist the farming community of this region in diversification of interests. This report is a synthesis of available information on all aspects of natural and cultural heritage.*

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by

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## **APPENDIX 1: Farmer Profiles**

### **Intensive farmers (dairy)**

#### **Farmer 1**

Farm 1 supports 3 sons as well as parents, and therefore on a farm of 430 acres (plus 170 acres of rented land), diversification has been necessary. They own an agri-contracting business and permit shooting walks on the farm. They are milking over 150 cows, and grow arable crops on their land: 46 acres of maize and 230 acres of corn. They are currently not in any agri-environment scheme other than a Catchment Sensitive Farming project: Deep Ford Brook project. However, he says that again, this brings with it more red tape: he can now not increase stock numbers, and believes this is just another way of getting information regarding fertiliser usage: “it is just NVC through the back door”. Farmer 1 adds that “a stocking rate of 1 cow per acre has been pushed by the government over the past 40 years” and therefore, due to financial reasons, they cannot justify any management regulations placed on their productive grazing land. Farmer 1 has received no information on natural assets on their land other than through IACS maps and Cadw, but would not want to receive this information.

#### **Farmer 2**

Farm 2, a dairy farm of 550 acres also supports 4 people, although there is at present no diversification. However, there is interest in the future in diversification into renewable energy, especially utilising slurry with a bio-digester. The farm is in no agri-environment schemes, and Farmer 2 mentioned that it is not feasible for them to join a scheme, as all schemes open to them are whole-farm schemes. However, Farmer 2 he believes that if these schemes were more flexible, and did not affect the whole farm, he would be interested in joining. He mentioned that many dairy farmers have areas of land that are not used for grazing (wetland and woodland for example) and many would be interested in putting these areas into schemes, again as long as the productive grazing land was left alone. He says that if in any case an area of productive land was to be taken out of production, he would need to be compensated, something that is not available under any whole-farm scheme. Farmer 2 believes that the reason why dairy farmers are not taking up these agri-environment schemes like beef and sheep farmers is that dairy farmers need to be more intensive in order to make a living: “you need to make every acre pay” He has received information on the historical sites on his land from Cadw, but no further information on biodiversity. Farmer 2 believes his farm contains natural assets that could

be of use to him in the future including scrub, forestry, an ancient historical site and an ancient wooden fort. He would very much like to learn more about these assets, and commented: “you need to tap into where the money is”.

### **Farmer C1**

Farmer C1 is an intensive dairy farmer who farms 400 acres on which he has 180 milking cows as well as 300 beef cattle and followers. He is in the Tir Cynnal scheme and has one recently-designated SSSI on his land. He has received some information on natural assets, but feels more biodiversity and species information is required to complete the picture. He has previously worked for the Ministry of Agriculture, but has not diversified since taking over the family farm. His wife did run a sign-writing business until family commitments took over. He may be interested in diversification in the future.

## **Arable Farmers**

### **Farmer 3**

Farmer 3 is an intensive arable farmer who is in the process of developing a no-tillage system of production in order to keep costs down and decrease chemical usage. He farms 321 acres and grows potatoes, turnips, cereals and grass, and currently has 600 sheep for winter grazing. However, he is considering discontinuing this aspect in the future. He has been in the Tir Gofal Scheme for 5 years, and has a Site of Special Scientific Interest (SSSI) on his farm on an area of saltmarsh. He has diversified in the form of a holiday cottage and is currently doing another up. He also has hope for further diversification into renewable energy, developing the farm buildings and consultancy on no-tillage farming practices.

## **Fairly extensive farmers**

### **Farmer 4**

Farmer 4 farms 310 acres, which includes a large proportion of “rough land”. He is an organic dairy farmer with 112 dairy cattle and 80 calves (beef cross dairy and dairy). He also grows arable silage. He is a National Trust tenant farmer, in the Tir Gofal scheme and the Woodland Habitat Scheme. He has SSSI’s on his farm, but has received no information on the natural assets on his land apart from that included in his Tir Gofal report. He added that he had been in the scheme for 6 years, and has not heard from them much in that time. He rents land with holiday cottages on and hopes to diversify into cottages further in the future. He also plans to open up an Iron Age fort on his land to the public. However, at present the area has been fenced, and grazing is prohibited. He is given £12 annually to strim the area: a sum he says is “just ridiculous”. He hopes to diversify further by opening up his farm to the public, providing farm walks and education. He has already put in a viewing platform in his dairy, and hopes to work with neighbouring farmers in order to provide this service. He therefore believes that his farm contains natural assets that could be of use to him and would like to further explore these

possibilities with guidance and advice. He is also very keen for recorders to visit his farm to give him more of an idea of the species he has.

### **Farmer 5**

On a farm of 330 acres, Farmer 5 along with his brother farms up to 300 beef cattle. He is a member of Tir Cymen, and thinking of converting to organic production in the future. He has received information from Tir Gofal, but was worried that they were telling him how to farm, instead of working with him. Although he has not diversified yet, he would be interested in diversification in the future, but is unsure into what area. He believes he needs a niche and is willing to work with anyone who can provide help in this field.

### **Farmer 6**

Farming 84 acres and renting extra land, Farmer 6 is an arable farmer that has 180 sheep for winter grazing. He grows potatoes, spring barley and oats, fodder beet and swedes. He is a National Trust tenant farmer and has been a member of the Tir Gofal scheme for 4 years. He runs a campsite, does some contracting outside the farm and would possibly look into diversifying further in the future.

### **Farmer C2**

This extensive farm of 300 acres supports 500 breeding ewes (Lleyn, Mule, Charolais, Texel and Suffolk) as well as 20 Welsh Black cows and the followers. No crops are grown except silage which is fed to sheep and cattle during the winter. The farm is coming into its 6<sup>th</sup> year in Tir Gofal and having now created new habitats, farmer C2 is now entering the habitat management stage. The farm is also takes part in Forestry Commission planting. Farmer C2 diversifies as he works away from the farm and has acted as a part time advisor for FWAG. He has therefore received information on the natural assets of his land.

## **Organic farmers**

### **Farmer 7**

On a farm of 380 acres (247 clean grazing and 133 acres of rough coastal slope), Farmer 7 keeps 850 ewes, and a handful of cattle, and grows 35 acres of barley, oats and turnips. This National Trust farm is organic and in the Tir Gofal scheme, having previously converted from the Environmentally Sensitive Area (ESA) pilot scheme. The farm is in the St Davids Peninsula SSSI area, the Special protected area (SPA), the Ramsey Island Landscape of Special Historical Interest, and the Pembrokeshire Living Heathlands project. Through these schemes, he has received information on the ancient sites, geology and habitats, but not much information on species. The family provide self-catering holiday accommodation, a caravan site, and the farmer also works at a farm school.

### **Farmer 8**

Farmer 8 farms 160 acres, milking 70 cows, with 12 beef animals and 35 followers. He grows 8-10 acres of organic potatoes, 20 acres of cereals and plants green crops after potatoes. The farm is organic (converted 1991), and was accepted into Tir Gofal, but the farmer pulled out of the scheme before it started. The farm contains SSSI's, but the farmer has received historical information on the land, but very little information regarding wildlife and habitats. He has diversified in a number of ways. 57 years ago, he started up a self-catering holiday cottage and a campsite. From here, he provided visitors with milk, eggs, cream and cheese and 1994, he began cheese-making, supply and getting the products directly from Cow and Gate in Haverfordwest. In 1976, he also started investigating renewable energy sources, and now has designed a bio-digester, uses solar energy and has a wind turbine. In the future, he hopes to look into magnetising water and seed, 'pentagoning' solar energy as well as a number of other methods.

### **Farmer 9**

On 158 acres, Farmer 9 keeps about 45 Welsh Black and Welsh Black cross cattle, 350 winter grazing sheep and 5 Oxford Sandy and Black sows along with a boar and 26 piglets. He grows barley, red and white clover lays, and has previously grown hemp. He has SSSI's on his land, is organic in the ESA (ending this year) and has applied to Tir Gofal this year. However, other than a ground beetle survey, he has not received any information on the natural assets on his land. He has diversified into D.I.Y. livery, has a menage for hire, a self catering holiday cottage, B&B and has just purchased a yurt to site on the cliff-top and let out. In the future, he hopes to build on the yurt idea, and would be interested in diversifying in whichever way possible, and believes his natural assets include the coastline, land near the sea, native cattle and rare-breed pigs. However, he is unaware on whether he has species that he could use.

## **Farmers with a very high regard for the environment**

### **Farmer 10**

On 213 acres, Farmer 10 keeps 110 beef cattle, 60 contract-reared dairy cattle and 200 sheep on winter grazing. He also grows 50 acres of cereals including spring wheat and barley and a small amount of winter wheat. He is in the Tir Gofal scheme, is a member of FWAG Cymru, is involved in the RSPB Volunteer and Farmer Alliance scheme and has yearly entomological surveys carried out on his land focussing on ground beetles as indicators of habitat health and the impact of chemical worming on dung beetles. He has not diversified, but is considering barn restoration projects to use as farm classrooms, as well as working more off the farm.

### **Farmer 11**

Farmer 11 farms an area of 250 acres and keeps 200 cattle (Limousine, Hereford, Belgium Blue, and Simmental) and has 200 Welsh Mountain sheep on winter grazing. He also grows potatoes and fodder beet, as well as wheat and barley (for feed, milling and

malting). He is a National Trust tenant farmer, was in the ESA scheme for 8 years, and in year 8 transferred to the Tir Gofal scheme. He farms in an extensive fashion, with 20 acres of headland being treated as organic. He has received information on the natural assets of his land from a number of sources including the RSPB Volunteer and Farmer Alliance scheme, Aberystwyth University, Tir Gofal and the National Trust. Five years ago, he diversified into providing a bunkhouse and camping, specialising in school groups, providing farmyard education as well as coastal activities and marine ecology courses. He also has horses grazing some of his land. He hopes to diversify further by working alongside local businesses in providing boat trips for the school groups and using straw for heating, and believes that the natural assets of cliffs and the patchwork of farming types can be utilised to his advantage in the future.

## **Farmers in the Preseli Mountains**

### **Farmer 12**

Farmer 12 farms an area of 300 acres (200 owned and 100 rented) and has grazing rights to 5000 acres of moor land on the top of the Preseli Mountains. He has 90 Welsh Black Cattle, 750 Welsh Mountain ewes and ewe-lambs and the following fatstock, and has introduced 4 acres of swedes onto his land in the last couple of years. They are members of Tir Cynnal since coming out of the ESA scheme, as well as part of the RSPB Volunteer and Farmer Alliance scheme. On their land, there are no SSSI's, however, there is on SSSI on an area of rented wetland. The family is doing up one holiday cottage at present and assist in letting another cottage during the summer months. They would not be interested in further diversification in the future, as they feel they cannot grow different crops due to their geography, the B&B market is saturated, and they are already tapping into the self-catering cottage market, which is nearing saturation point.

He agrees that there are many natural resources on his land: bramble (for insects, food and shelter), wetland, scrub etc. However, he believes that there is a conflict of interests here. These habitat areas are promoted under an ESA agreement, however they are being removed from productive grazing land that is paid for under the SFP, and thus funding is actually removed from the farmer for keeping these areas of habitat, even if they are open enough for cattle or sheep to graze under. He believes this is actively preventing conservation, as the farmer would be getting paid much better for removing these areas and turning them into productive grazing land. He adds "if you are doing something for conservation, money cannot be taken away from you in your SFP, because you are not being otherwise paid to keep it there."

Landowners that do not actively farm the land/ semi-retired farmers renting out land / farmers that have already diversified so conventional farming is not the main income (farmers 13,14&15,16)

### **Farmer 13**

Farmer 13 owns 11 acres in the Preseli Mountains. A proportion of the land has been planted with willow, and the rest of the land is not currently managed. It consists of wetland, meadows and a streamside corridor. The river has been designated a SSSI, and the landowners have received information on the natural assets of the area from CCW and Tir Gofal advisors. However, the information received focuses on the river and the impact of willow planting. Very little information has been found out about the rest of the land. Farmer 13 has a river, ponds, willows, 17th Century ruins, outbuildings, wetland and meadows, all that he would like to develop. He would also like to receive advice on land management and where to source stock.

#### **Farmer 14**

Farmer 14 has recently semi-retired from farming 200 acres of mixed beef, sheep and arable. He now farms 50 acres and rents out a further 60 acres of land. Currently he has 10 Welsh Black cattle and has 100 Welsh Mountain sheep on winter grazing. In the summer months, some land is also grazed by horses and cut for silage. He also grows 7 acres of barley oats. He has been accepted for an initial Tir Gofal visit in 2009 and has just begun organic conversion. He is not interested himself in diversification, but his daughter may be in the future. On his land, he has assets such as a quarry, river, wetland, meadows, thick hedgerows and native Welsh Black cattle. He has received information regarding insect life from entomological surveys, as well as botanical information from a friend, and the entire farm is regularly monitored and species of insect, plant, mammal, bird, fungi are recorded by a family member.

#### **Farmer 15**

On a farm of 130 acres, farmer 15 currently has no stock. He usually has sheep and horses grazing the land and hopes to resume this soon. All the land is under permanent pasture. He is in the ESA scheme, and is organic. He has received information on the natural assets of his land, on geology and plant species privately, mainly from friends. He has a number of assets on his land: organic, sandy grassland, wetland, and a pond, and would however like to learn more about the assets on his land, especially about insects as pest control agents (mainly docks) and birds.

#### **Farmer 16**

Farmer 16 is farming a farm of 200 acres, and rents a further 300 acres. On this land he grazes 297 coloured horses, both his own and those belonging to his business partner. All land is laid down to grass and no crops are grown. He is not sure as to whether the rented land contains any SSSI's. He has been accepted into the Tir Gofal scheme, but has as yet received no information about the natural assets on his land. He is interested in diversification in any way in the future, and is currently looking at a way to make profit from the horse dung collected from the fields. He is also working on a scrub clearance scheme, and believes that his land contains many natural assets that he could tap into, including a pond, wetlands, horses and shooting opportunities.

## APPENDIX 2: Landowners Questionnaire

Natural resources on your farm- How to make the most out of them- and how we could help

Name:

Farm:

### General Information

1. How would you describe your farming system:
  - a) highly intensive
  - b) intensive
  - c) extensive
  - d) highly extensive
2. Roughly, what size is your farm?
3. How many and what type of stock do you have?
4. What crops do you grow and roughly how many acres of each?
5. Are you organic, thinking of converting to organic, a member of an agri-environment scheme, (if so which one) or thinking of applying to an agri-environment scheme?
6. Do you have any SSSI's on your farm?
7. Have you ever received information on the biodiversity/natural assets on your farm?  
If so, from who? Were you pleased with the content?
8. Do you have access to the internet and use it regularly?

### Diversification

9. Have you diversified, if so how?



10. Might you be interested in diversification in the future, if so into what?

## **Natural Assets**

11. Do you feel that there is enough information available on the natural resources in your area/on your land (e.g. shooting, fishing, walking, bird-watching) readily available? Is there enough information on diversification opportunities using these resources?

12. Do you feel that there is enough information available on agri-environment schemes and habitat management readily available? Do you feel that there is too much conflicting information?

13. Do you find it hard to know where to start when looking for information and advice on natural resources agri-environment schemes/ for diversification etc? If not, where would you start?

14. Would you like a central body to channel information to you if you were to request it? (wildlife information, habitat management, agri-environment schemes). Would this save you time, and give you an idea where to start looking?

15. What natural assets do you have that you may be able to use for your benefits in diversification such as geological sites of interest (small quarries), rare or interesting species (e.g. bats, small blue butterflies), interesting habitats (e.g. meadows, wetland, woodland), rare breeds of cattle, sheep, pigs etc?

16. Would you be interested to learn more about the natural assets on your land?

16b. Would you be interested in attending workshops to learn more about the natural assets on your land and how best to utilise them?

## **Site-specific Reports and Surveys**

17. Would you be interested in a site-specific report of your farm for habitats and geological features and a report (see map example) of your farm and a species list of all species of plant, fungi, mammal, reptile, bird and insect found within the surrounding 2km?

18. Would you be interested in receiving a full species list or just the basic information of species? Do you think we should provide different reports for farmers wanting to know about this information in more or less detail?

19. In addition to the report, what follow-up service would be of use to you? Would you like the service of a farm visit by local recorders looking at habitats, plants, insects, birds, mammals, fungi and geological features on your land and provide a

comprehensive write-up to you as a result? This would be tailored to the individual farm more than a map.

20. Would you like this visit as standard, or would you prefer someone to provide you with a site-specific report, and then you can request a site visit after you have received it?
21. After receiving a site-specific report, do you think many farmers would be willing to source their own funding and follow up on getting a survey done themselves?
22. Would you be interested in receiving information on the geology of your area/on your land?
23. Would you be prepared to pay for these services (mapping and site visit)? If so, how much?
24. Would you be interested in this service if it were offered free of charge?
25. Would a site-specific report similar to the example be of use to you?
26. Would you prefer any amendments be made to the report, e.g. photographs of species, less long lists etc? Is it necessary to include a full species list for the area? (Bearing in mind that some small, insignificant-looking species may be of great interest to experts, who may stay with you in order to see that particular species)
27. How do you think such a service should run - random, should farmers request a survey or would farmers be prepared to attend meetings and discussion groups on the topic?
28. Do you think this service is overlapping any other organisations, such as FWAG, or TG, TC assessments (remembering that CCW/FWAG TG 'Wildlife on Your Farm' has been discontinued), or do you think it can work aside these organisations in providing information to farmers who would not normally receive it?

### **Confidentiality Issues / Possible Conflict**

29. Would you like to receive a report containing information about the surrounding area, including sites on neighbouring farms etc? Do you feel that this information may be of importance to you when assessing the natural assets of your area, for example when suggesting hikes for people staying in a B&B or carrying out tours of the area? Or would you prefer for information on neighbouring farms to be omitted from the report? Would you prefer a map to be focussed just on your farm?
30. How would you feel about neighbouring farmers being given a report including your farm, (as example)?

31. How do you think your neighbours would think about you having information about sites on their farms (Map 1)? Do you think there could be possible conflict here over access issues and land ownership (bearing in mind that this data is freely available on the internet anyway)?
32. Would you be happier for neighbouring farmers to be able to see on the report sites on your land that were viewable or accessible only by means of public highway, and thus remove any vulnerable sites from a map that could lead to conflict, or would you prefer it just contain information on your farm and omit the surrounding area?
33. Would you prefer that any information gathered on your farm be kept confidential between the recorder and yourself, or would you be happy for the records centre to enter records of species found on your farm into their database?
34. Do you worry about ecologists and biologists coming out on your land, finding rare species and making you change your farming regimes by protecting sites?
35. Would you be happier if you knew that you were the only person to have a copy of the report, and therefore, no action could be taken on this issue if you did not want it to be?
36. How do you think we can get around the clash between farmers and ecologists?  
Holiday Accommodation / Tourism
37. If you have a B&B/holiday cottage, would you put a map like this up to show what is available to tourists on your farm/in your area?
38. If you were found to have an important species on your land, would you use that information to market your holiday business, e.g. if you had a rare butterfly on your land, would you advertise on a butterfly conservation website?
39. Do you currently provide your guests with information (leaflets etc) regarding guided walks, areas of interest etc in your area? Would you like a service bring this information together and provide you with it so that you can pass on to your guests?
40. Are there any important questions that you think this questionnaire has omitted / any points that you would like to raise?



## **APPENDIX 3: Pembrokeshire Landowner Questionnaire Results**

### **Is there enough information on natural assets available to farmers?**

56% of farmers (Farmers 2,4,6,9,10,12-14 and 16) believe that there is not enough available information on natural resources in their area, whilst 44% (farmers 3,5,7,11 and 15) believe that there is enough information available. However, when considering agri-environment schemes independently, farmers 9-11 believe that there is enough information already available. Farmer 1 believes that there is too much overlapping information available on agri-environment schemes, with no central body. He also adds, “these bodies very rarely improve the efficiency of the farm”. However, all who have access to this information agree that although they may have access through contacts, organisations or friends it is not readily available to everyone. Farmer 11 also feels that personalised farm by farm information is lacking and Farmer 15 believes that you can only find this information if you dig for it.

Farmers 2 and 3 suggest that while there may be information out there, the facts and figures are missing. As the agri-environment schemes and ideas are fairly new, Farmer 2 believes farmers need clarity and agrees with Farmer 5 that he finds it difficult to know where to start looking for information. Farmer 9 suggests that in order to find this information, you need someone to channel it in the right direction and believes this information will become more and more important to farmers in the future. However, Farmer 13 says that with the internet, it is possible to look for any information you need.

Farmer 5 also believes that many farmers find it daunting looking for information, as all information seems to be coated in “linguistic garnish”. He believes that farmers need this information presented to them in understandable terms, this will then enthuse them to know more. Farmers 10 and 14 agree with this and believe that many sections of the SFP forms are there to confuse the farmer and then seem to justify taking money off him. Farmer 14 adds that busy farmers just do not have the time to go hunting for information and in many cases this puts people off starting to look. He also believes that it is important not to think that farmers will automatically know what abbreviations mean and to always spell out what, for example, an SSSI is.

When looking for information, Farmer 6 would approach the unions, but adds that when pointed towards Tir Gofal, the application window is open for such a short time, many people are unable to get to the information that they require. Farmer 4 also adds that the only information he has received is from Tir Gofal telling him what habitats he has, but not what is in them. If he were to look for further information, he would contact PLANED, whilst Farmer 14 would contact the Ministry in Carmarthen, the Welsh Assembly or the NFU and Farmer 15 would get in touch with the Welsh Assembly or read through the Gwlad publication. Farmer 11 believes that whilst this information is out there with CCW, the Welsh Assembly Government and the NFU, there is a worry of it being lost and there needs to be an improvement on clarity of access and collation of data for individual farms. Farmer 16 is worried that the only way to access this information is

through CCW, who he believes have too much power already. National Trust tenant farmers have been helped by their landlords to access this information, but Farmer 7 agrees that while he has received plentiful information on the ancient sites on his land, he has received very little detailed archaeological information or information on species. He also feels that much of the wildlife information is not very user friendly. However, his interests lie with the historical aspects, so he adds that he has never really looked into finding more out about wildlife. That is not to say he is not interested, and he added that he would like to be better able to identify the flora and fauna that surrounds him. Farmer 10, as a member of FWAG, believes that they provide excellent information in this area and work to bring ecologists and farmers together. However, he believes that they need more marketing in order to fulfil their full potential.

Farmer 3 has received information through Tir Gofal and the RSPB Volunteer and Farmer Alliance scheme; however farmers perhaps without the time or interest may find it difficult to come across this information. He goes on to say that not everyone has access to the information that he does, as not all are involved in agri-environment schemes, “perhaps Tir Gofal is a bit too hardcore and you are losing the big picture. It is perhaps too prescriptive to suit everyone.” Farmer 10 also considers that some farmers may be afraid of entering agri-environment schemes, as CCW or WAG can put prescriptions on areas and therefore farmers worry about opening up their farms to those who can slap protection on sites that they feel would be better managed in a different way. He adds that “Tir Gofal is good, but it is not perfect”. Farmer 3 also raises the point that there is plenty of information out there but only if you know where to look. He has access to this information because he is already involved in this area. However, he adds, “if you want to you will find it”. Farmer 12 believes that whilst there is information available on hedges and wetlands, detailed information is lacking. Habitat areas are available from the ESA survey; however it is often the case that you know where they are but not what is in those habitats.

Farmers 1,8 and 13 have never received information on the natural assets on their farms and have never looked into it so would not know if the information was available or not. In the same instance, Farmer 8 has never personally done much with agri-environment schemes as he does not have the time and does not want to be smothered with another layer of bureaucracy.

81% (Farmers 2,3,4,7-16) believe that they have natural assets on their land that they could use to benefit them in the future and would be interested to learn more about these assets, however, Farmers 5 and 6 are unsure of whether they have assets on their farm that could be of use to them. Farmer 5 is not aware of natural assets on his land that could be of use to him in the future and believes that a survey could make him more aware. Whilst Farmers 2-16 would like to learn more about these assets, Farmer 1 would not want to.

**Would farmers be interested in receiving a site-specific report (as example) of their farm?**

94% of farmers in the survey (all farmers except Farmer 1) would be very interested in learning more about the natural assets of their land and in receiving a map (Map 1). Farmer 16 adds that he would be very interested as long as it was carried out independently and not through CCW. Farmer 1 is not interested in receiving information regarding any of the natural assets of his land, as he does not feel that this is a route which he wants to go down. He would not be interested in receiving a map from WWBIC or any information regarding species, habitats or geology.

100% of farmers interested in this information agree that a map is the best initial method of providing them with it. Farmer 10 added that he has received CCW and FWAG maps, but neither brings all information on species, habitats and geology together as does the example map. Farmer 11 adds that this is a good time to promote this type of information, as land is gradually being brought back from intensive farming practices and therefore it is possible to study this return to less intensive methods and the effect it is having on species and habitats.

### **How would farmers suggest we follow on from the site-specific report?**

Again, 94% of farmers interviewed (all except Farmer 1) believe that the map is a good starting point but in order to be of use to the farmer there needs to be a follow-up. 100% of farmers interested in receiving information believed the best method of follow-up to be a survey of the individual farm by a suite of biologists covering fungi, plants, insects, mammals, birds and geological as well as historical sites. All farmers in the survey believe that the map and a follow-up survey complement each other and one is of little use without the other. Farmer 2 adds that it is good to know in advance what is on the farm, as you are then in the know before new schemes come out and also so that you don't act and ruin what is already there that you did not previously know about. As an intensive dairy farmer, Farmer 2 states that this visit must not turn into another whole-farm scheme. Ecologists must only look at land agreed with the farmer; in his case solely the unimproved land. He believes that this is a way of building up trust. Farmer 3 adds, "it is good to hear that you have something important on your land. You can then change your management of that habitat if necessary and monitor it for changes". However, Farmer 1 believes that as soon as information is gathered it becomes available: when people find something, it cannot be kept quiet. He also believes that this is bringing tourism into the equation and that tourism should be kept entirely separate if wanting to help farmers.

### **Suggestions for the report / map design**

69% of farmers (Farmers 2,5,8-16) believe that it is important to include a full species list, as on the example map. Farmer 9 explains, "it is good to have. You won't learn if it is not there and people will be amazed about the quantity of species there are in their area." However, although Farmer 10 would like to have information on all species, he does not believe that all farmers would and thinks the farmer should be given the choice

as to what information they receive. Farmers 2,5,9,12,13,14 and 15 add that people do not necessarily know what is what, so it is a good idea to break down the information into manageable units and make sure that priority species are highlighted, perhaps with information regarding priority species included. Generally, farmers wanted this section to be made more user-friendly. Farmer 2 adds that farmers often do not know what is important and what to protect, so this could be of advantage in that perspective. Farmers 8,9 and 15 add that it would be useful to cross reference species information and for the species list to relate back to more information, for example, a book or information on the WWBIC website.

However, Farmers 1,3,4,6 and 7 believe that a full species list within 2km<sup>2</sup> of the farm is too much information to add to the map. Farmers 3 and 4 believe that it should be cut down to just include important, rare and priority species, while Farmer 6 is mostly interested in receiving information on plant species. Farmer 7 suggests that just rare and poisonous species are included on the map, as these are of greatest importance to the farmer. Farmers 1 and 14 believe that the addition of photographs would make the map more user-friendly. Farmer 16 suggested including a separate sheet of paper containing species information tailored to what the farmer wants, however, Farmers 12 and 14 made the point that an extra piece of paper would get lost.

Farmers 11 and 12 suggest that it would be a good idea to include a paragraph from the country code on the base of the map, indicating to tourists that they must respect other people's land and if they want to access a site on a neighbouring farm they must first of all seek permission from the landowner. However, Farmers 8 and 9 believe that the majority of tourists have enough respect for this to be unnecessary.

## **Suggestions for a survey**

Farmers 7 and 14 believe strongly that information on all species and habitats as well as geological information should be provided in the survey report; if the farm was ever sold, information of low relevance to one owner may be of great interest to the next. Also, Farmer 14 asks, "what if they become interested at a later date...they could change their mind." Farmer 14 also adds that any survey needs to be standardised. This data is more statistically valid and it would be a waste to miss out on this opportunity to collect useful comparable data. Farmers 10 and 13 agree that a general overview should be included, but that the farmer should first be asked what he would like to know the most about - perhaps listing priorities by a series of tick-boxes. Farmer 13 believes that this would give the customer more options. Farmer 15, who has received information on the plants and geology of his land would like a survey to focus more on insects and birds.

Farmer 6 made the suggestion that any survey carried out would need to be repeated after a period of approximately five years in order to assess any changes due to management practices. Farmer 8 also agrees, but made the point that the real issue that we should be tackling here is climate change. He suggested that the information collected could be used to measure the impact of climate change over time. He said, "coming back in five years is fine. If you leave it twenty years, it will be too late." Farmer 7 believes too many



surveys are carried out only in summer months when sites are often covered with dominant vegetation. He has himself had to point out important historical sites to inspectors who were unaware that they existed. It is therefore essential to consult farmers about what they have on their land before carrying out a survey in order to know where to look and what to look for. As farmer 13 says, “you need to make sure you ask the farmer what he knows about his land before starting on any survey.” Farmer 14 agrees and adds, “it is important to empower the farmer by asking what they know that you do not...you need to show the farmer respect.”

Of the farmers that would be interested in receiving a map and survey (Farmers 2-16), 100% of farmers would be interested to include information on geology and historical sites both on the map and in a follow-up site visit. However, Farmer 16 would only be interested in receiving this information if it was carried out independently and not with CADW. Another point made by Farmers 13 and 14 was that it would be interesting to tie together tales, legends and old Welsh field names in with this information by asking farmers and local historians to provide information. Both farmers agree that this would personalise surveys and make them more easily digestible. They also add that if this information is not recorded it will be lost as new farmers take over farms and this seems to provide the perfect opportunity to record this information.

Slurry seems to cause a big problem for both dairy farmers, as too much is produced to be sustainably spread on the land. Farmer 1 believes that they do not receive enough money to expand their slurry-holding facilities and therefore no other option is available other than to spread it on the land. Farmers 1 and 2 agree that money needs to be spent on research to improve slurry facilities and disposal and to investigate composting. Farmer 2 adds that the applied follow-up of that research is also imperative, perhaps through schemes such as this.

### **Would farmers like to have a hub of information to access regarding natural assets?**

100% of farmers surveyed believe that it would be very useful for an organisation to act as a hub of information and channel information regarding natural assets and agri-environment schemes. Farmer 1, however, is very wary of the confusions with agro-tourism and believes that the two should be kept completely separate. Farmer 2 agrees that this is good in principal, but believes that up until now all of this has been provided by Farming Connect. Farmer 3 adds to this that there are perhaps too many organisations providing information such as CCW, Welsh Assembly Government and FWAG in the private sector, but he goes on to say that a single organisation acting as a hub of information would be useful as a “one-stop shop”. Farmer 10 expressed the opinion that FWAG was first set up to act as this hub of information, but perhaps is not providing it. He believes that it would be very useful to have an organisation that does provide this role, but considers that this should be carried out alongside FWAG.

### **How much is this information worth to the farmer?**

Farmers 2-16 all agree that they would be interested in a service to map the natural assets of their land if it was provided free of charge. However, 37% of farmers (Farmers 1,3,12 and 16) would not be prepared to pay for information. Farmer 12 says, “the funding is just not there. You are losing 50p per kilo on every lamb that you sell and dairy farmers are still catching up from their losses over the past five years.” Farmer 1 added that people have the right to roam, so it is not possible to make money out of such a service. He adds that very few farmers would be willing to finance finding any information out about natural assets on their land, especially not dairy farmers.

75% of farmers (farmers 2,4-11,13,14 and 15) may be willing to pay for information on the natural assets in their area, combined with information on how they can tap into them depending how much and what is offered to the farmer. Farmer 9 worries that a free service may cause a loss of respect and lead to abuse of the service of which he believes there is a need for. He then suggests that if it were to cost the farmer, the farmer would have to be given the choice of a number of different packages, for example: one package with just the map provided; a second with the farm visit only and a combination of both as a third package. Farmer 9 states that he would rather pay £250 on finding species on his land than a survey of the amount of asbestos in his barns, which he has just had to pay for! Farmer 11 would be willing to pay up to 35% of the cost of the service, Farmer 13: £100-£200 and 14: £100.

Farmer 10 believes that this service is ahead of what FWAG can produce in terms of mapping, species, habitat and geological information and believes that the service should be subsidised and offered at a low cost to farmers. He adds that if it can make you one step ahead of the inspectors then it automatically becomes of value. It is then possible to say to the inspectors, “I have had an audit done, the rare plant that they found in field A. is still there, therefore I must be looking after it in the correct manner.” He believes it also becomes of value to the Welsh Assembly as it is providing them with an audit of what is on each farm (at the farmers’ individual discretion). Farmer 7 adds that farmers will not be willing to pay unless the information gained can be used to support them getting into any agri-environment scheme using a points system, by adding extra points to their application and Farmer 4 believes that people with holiday cottages would be prepared to pay for this information. However, Farmer 14 believes that in the present economic climate, with farmers hanging on by their nails, a project such as this should be funded, “if it were really there to help the farmer, it should be provided free of charge”. Farmer 13 adds that landowners with a small area of land, who do not need to make a living from their land, would generally be more willing to pay than commercial farmers.

Farmers 2,6,7,8 and 14 believe that if initially information is provided at no cost, farmers may then be willing to pay to take it further. For example, Farmer 2 suggested that the map (Map 1) should be provided for free and then a follow-up site visit may be paid for. Farmer 14 agrees and would be prepared to pay up to £100 for a site visit if the map was provided at no cost.

## **How to target farmers and market information on natural assets**

A number of suggestions of how to target farmers to tap into information on natural resources have been suggested. As a general rule, farmers surveyed believe that it is important when providing this service to make the initial contact with the farmer, who may forget or just be too busy to make the initial contact themselves, followed up by a one-to-one visit such as the visit to collect this information. It is also vital to explain how the service could help the farmer by increasing production, decreasing pest problems or bringing in extra funding. As farmer 9 states: “it needs to be sold well.” He suggests a slogan such as: “Do you know the wonderful world of nature that you have on your farm?” He goes on to make the point that farmers will be excited about finding specific species on their land that perhaps have not been found on surrounding land, and that Pembrokeshire is unique in its species and habitat richness, of which we should be very proud. However, farmer 15 points out that when marketing this type of service to farmers, pinpointing why it is essential is a must.

Farmers 5 and 9 mentioned that if ecologists could look at, for example, ways of increasing insect populations capable of bio-control, they would be interested in the service. Farmer 9 adds that you need to give out information that will increase the farmer’s knowledge on problem avoidance, “lost soil mychorizha will lead to unhealthy crops, species all interlink and changing interactions can have knock-on effects. You cannot get away from how important nature is and if you disregard the balance, then Mother Nature will make you pay ten fold.” He believes that this knowledge can be sold to actively help the farmer. As Farmer 5 says, “at the end of the day you need to be able to make money out of the information you receive.”

Farmer 2 suggests that niche market groups are targeted. As examples, he mentions Saltmarsh Lamb and Milk Direct (Gloucester) who put statistics together to market premium products. Perhaps, he suggests, information on natural resources on the farms, or at least the fact that the farm had undergone some sort of survey, could be utilised to further promote a product. Farmer 14 also reiterates this and suggests that this information could be useful in promoting Welsh Black beef- a product that is marketed as being naturally reared. Farmer 2 suggests an initial visit to farms with a map, such as the example, on the screen of a laptop and go on from there.

Farmer 10 believes that there is a four-step approach to marketing this information and targeting farmers:

- Step 1: The provision of this information to farmers should be launched at the Pembrokeshire County Show at a stand along with perhaps the announcement of results of a competition in order to grab interest.
- Step 2: Target the grassland societies. Speakers are booked for 2008, so book in to give a talk in 2009. He advises to use their database as a mailing list and either produce a covering letter or flyer to add to their mailings and utilise their list of email addresses to reduce costs.
- Step 3: Target the NFU/FUW publications by contacting the head offices.
- Step 4: Go back to local press and radio and perhaps target the farmers co-operatives CCF and CPF, adding flyers in with all of their bills.

However, not being a commercial farmer, Farmer 13 added that it is also important not just to target the places that farmers go, such as agricultural shows. To include this type of person in your targeted audience, he suggests advertising in the local press and believes that a phone call followed by an initial visit by a motivated, enthusiastic person is the best way as this would make landowners less suspicious.

Farmers 2 and 3 also suggest targeting people who go to meetings such as Grassland Societies and Discussion groups, as they will be more likely to take information like this on board. However, Farmer 2 suggests that this should not be given as a presentation topic at any of these meetings as people would not be interested. Farmer 12 agrees with this point, adding that there is no good in presenting information on natural assets in farming meetings unless you can offer farmers a way of making money out of the information. Farmer 2 suggests that this is a good way to get a list of names of people that can then be independently contacted. Other lists, he adds, could be obtained from Farming Connect and PLANED. Farmer 16 believes that meetings in village halls would be successful in marketing the services. Farmers 11 and 12 suggest getting lists of people in agri-environment schemes and Farmer 11 suggests following on with organic farmers, National Trust farmers, those who have diversified and then those who are working in tourism. Farmers 10 and 14 think this information should be presented at agricultural shows. However, Farmer 3 disagrees with this, as he believes that you will miss a large percentage of farmers who are not yet interested in the environment. However, Farmer 12 believes that a follow-up presence at shows after the initial contact with farmers would be beneficial.

Farmers 12 and 16 also suggest that flyers should be put in newspapers (local and farming) and both flyers and articles should be put in Gwlad. This was also suggested by Farmer 15. Farmer 6 suggests initially targeting farmers in agri-environment schemes, as others would be more difficult to convince. He also thinks that this information can be used from a tourism and farming point of view, so it is important to take both groups into consideration. Farmers 4 and 15 believe that initially organic farmers should be targeted and Farmer 15 adds, “make sure to get a list of names from the Pembrokeshire Organic Group.” Farmer 4 suggests following on with small suckler herds and then approaching the big dairy farmers, who he adds, may not be as keen in receiving information. Farmer 1 believes that the farmers that will be interested in this information are already involved in agri-environment schemes and that such a service will be only preaching to the converted.

Farmer 7 agrees that a reference point for farmers in Pembrokeshire is needed, but believes that anyone providing this service must be proactive in targeting farmers and money must be made available to them to provide this. Farmers are usually too tired at the end of the day to tap into this information if it is not actively marketed. He suggests that it might be interesting to try to provide the service initially by drawing a straight line across the county from east to west and mapping and visiting all farms that lie along that line. In that way, he says it will provide very interesting data on all habitat types in the county.

Farmer 9 believes that in promoting natural assets, one is up against large farms. He thinks that in general terms, we are losing the quality of our small farms and big agribusinesses are putting biodiversity in danger. He says however, that in Pembrokeshire small farms still predominate, but the way of farming is changing and therefore action must be taken sooner rather than later in order to reverse this trend.

Farmers 13 and 14 both believe that another market for this information is to provide the service to estate agents. Farmer 13 adds that this kind of information could really add value to a property. He adds that West Wales Properties already provide very basic information on the natural assets of some of their properties. One of the reasons that his family bought their property was because of this kind of information. He believes that this could be especially important at a time when house prices are falling. Therefore, even if this information was offered free of charge to farmers, charging estate agents could be a way of re-cooping some of the costs.

### **Would information on natural assets be useful in promoting your business to tourists?**

Of all the farmers that currently provide tourist holiday accommodation, 100% would put up a map (as example) in their cottage. Farmer 3 has a voluntary bridleway and would very much like to make this information available to guests in this format. However, Farmer 12 is cautious that displaying footpaths on this map to tourists could cause conflicts with neighbours. He would be worried of the comeback on himself if his tourists were found wandering his neighbours land. Whilst of interest to tourists, Farmer 7 thinks that this kind of information is only mildly interesting to the majority and is perhaps better suited to specialists and Farmer 8 believes that not many tourists would make great use of it.

100% of farmers interviewed that have diversified into tourism would use information on priority species, habitats or geological or historical sites on their farm to market their business. As an example, Farmer 7 mentioned the Red Kite in mid-Wales and the tourism that it has brought to the area. Farmer 8 already markets his holiday cottage on an organic website and receives many bookings from this. Farmer 9 believes that it is good to market your own produce and your natural area, as it shows that you have respect for the living organisms that you share your farm with. He adds that even species such as badgers can be used to the farmer's advantage, as many visitors are fascinated to be taken out to see them at night. As well as using this information in his bunkhouse and campsite, Farmer 11 also believes that this information should be given to schools and could be used in conjunction with an annual school visit regarding the natural assets in the county.

Again, 100% of farmers interviewed who have tourist accommodation would be very interested to be provided with this information in the form of leaflets produced by various organisations on habitats, species, walks and areas of interest, especially if a central body could bring all this information together and distribute it accordingly. Farmers 3 and 9 do not provide guests with much information on the natural assets of the area, "as in Pembrokeshire, most holiday accommodation sells itself." However, Farmer 8 notes that

this information could be useful to promote accommodation out of season. Farmers 4,6-8 and 12 give information to guests by word of mouth: Farmer 12 about Welsh Black cattle, cattle calving, sheep lambing, shearing and the swallows in the barns and says that guests are fascinated by these activities and watch whatever they can. Farmers 4,6,7,8 and 11 do provide guests with information. Farmer 7 provides cottage and caravan guests with three tiers of information: about the farm; about St Davids and about Pembrokeshire, but would still be keen to receive more information to pass on, and Farmer 8 provides advertising information in the cottage, but very little biodiversity information. Farmer 11 provides tourists and schoolchildren with information from Tir Gofal, but admits that it is all rather basic at the moment.

Farmer 6 also mentioned that it could be useful to put a map (as example) up in National Trust car parks, especially where the surrounding land is farmed by National Trust farmers who have agreed to this and use it to publicise the area. He adds that people who come to Pembrokeshire are generally interested in wildlife and often are more interested than the people who live here.

### **Is this service overlapping with other organisations?**

Advice has been sought from Dr Glenda Thomas, Director of FWAG Cymru and Martin Sykes of FWAG in order to assess whether there is any overlap. Both agreed that the answer was no and added that any site-specific work would be a good step in helping the farming community understand what natural resources they had and how best to use these in terms of diversification. FWAG would also be very keen to utilise a map (Map 1) to provide to their members. They added that this type of work would be very useful to Tir Gofal. 50% of farmers, (Farmers 2,5,8,9,12 and 14-16) believe that this service would not be overlapping with any other organisations in a similar field, such as FWAG, Tir Gofal or CCW. Farmer 2 stated that it would be better than what else is on offer. Farmers 5 and 14 added that with a scheme employing a site survey, you are finding out answers as to why you are being told to manage areas in particular ways- Farmer 5 added that such a scheme would actually be clarifying Tir Gofal. Farmer 12 believes such a scheme would act as a good starter point for farmers interested in joining agri-environment schemes and said that if, for example, Tir Gofal told you that you did not have enough important habitat etc on your land to join the scheme, you could produce information to say otherwise. Farmers 8 and 16 believes there would be no overlap as long as the service was provided independently from CCW and the Welsh Assembly, as it would automatically give people more faith in the service. Farmer 16 suggests funding this service with central government or EU funding, thus not linking up with CCW.

Whilst Farmer 3 sees a slight similarity with the FWAG Cyntaf service, the RSPB Volunteer and Farming Alliance scheme and the Priority Habitats of Wales (CCW and WAG), he does not really think that this is overlapping with any one of them, as this would be providing an independent, individual service, and would be of particular use if it was provided free of charge to the farmer. Farmer 1 was not sure if this was overlapping, as he had never looked into it. Farmers 6 and 7 believes there is a slight overlap with Tir Gofal, but that it would be possible to work together, and Farmer 10



believes that there could be an overlap with FWAG and feels that it is imperative to work alongside them. He adds that if information on natural assets and habitat management was provided free of charge, it would always be at odds with FWAG. Farmer 13 sees a small amount of overlap with CCW's work and Farmer 11 agrees that there is an overlap with other organisations such as the National Trust, Aberystwyth University, CCW and the RSPB, but goes on to say that none of these organisations bring all the information together. He believes for a service to farmers to work, it is necessary to tap into official and unofficial information and bring it all together.

## **Confidentiality Issues / Possible Conflict**

### **Site-specific reports and mapping**

88% of farmers (Farmers 2,3,4 and 6-16) believe that it is important not only to include information on an individual farm on a map, but to include the surrounding area (as on the example map). Farmer 7 believes that there should be public access to all sites of interest on farmland. He goes on to state, "we need to move on from the 'get off my land' attitude; it needs to change". Farmer 5 does not see how information on other farms is relevant to him and thinks that only the one farm should be shown on the map. Farmer 1 agrees with this point of view. He goes on to say that he cannot see two farmers working together without guidance, so a main body should keep the information and use it to offer their guidance if required. Farmer 1 believes that the map should contain information about the farm in question only and should not include habitat and historical information on the surrounding land. He believes very strongly about this even though this information is already in the public domain. He would not like neighbours to have a copy of a map including his farm and believes that providing this map to neighbouring farms will cause conflict. He thinks that this information must not be made available to tourists, who he feels would then use this information to gain access to sites on farmers' land that they otherwise would not know about and asks the question: "how would people feel if you walked across their garden? The public wants to see the land, but farmers created this landscape, so the public should respect the farmer".

50% of farmers (Farmers 2,3,10,12-15 and 16) believe that showing information of neighbouring farms may cause some conflict, but as all the information on the map is in the public domain anyway, there really is no problem. Farmers 13 and 14 think that this could actually bring neighbouring farmers together and that problems with the odd individual are no reason not to offer this service. He adds that this could indeed iron-out that attitude. Farmer 16 thinks that if the information is publicly sourced, no-one has a right to object, but adds that care must be taken to ensure that CCW does not add confidential information to the map. In this case, he adds, people would then have the right to object. Farmer 2 believes that it is vital the farm boundaries are clearly marked, and then there should be little conflict. However, Farmer 15 is worried about geological information being shown on the map as they believe that there are people out there who just like to cause problems. Although they are aware that this information is publicly available on OS maps, they add that the majority of farmers do not have access to them and this will be making the information more accessible and thus people are more likely

to cause a problem. They believe that if a farmer particularly wants geological information displayed on a map, he can request it, but it should not come as standard.

94% of farmers (Farmers 2-16) are happy for their neighbours to see habitat, geological and historical information mapped on their land. Farmer 2 states: “this should generally be no problem. People who are going to cause problems will find out anyway”. Farmer 10 asks, “what if one farmer is a nosey-parker and notices that the farmer next door has ploughed land where he has seen from the map that a historical site is based and contacts the authorities?” He personally has no problem about neighbours been shown information on his land, but worries that others may feel slightly threatened if the map contains all of this information on habitats, geology and historical sites, even though it is available in the public domain, most farmers don’t have OS maps with this information on. Therefore, it is bringing this information perhaps sometimes to the wrong people. He adds that farmers do not want to have to worry about more red tape in a service that otherwise would be promoted as being ‘farmer-friendly’.

31% of farmer (Farmers 3,4,5,6 and 12) believe that it could be a good idea to show only historical and geological sites that are viewable from a public right of way in order to avoid any conflict of access, particularly where tourists are concerned and Farmer 14 says to answer this question it is necessary to talk to farmers with sites of interest on their land to gain their views.

63% of farmers (Farmers 2,7,-11 and13-16) believe this is not necessary. Farmer 11 says: “either include all sites or none at all”. Farmer 10 believes that most people are generally not a problem in this respect and you should not have to put a dampener on what otherwise will provide a good service, but at the same point, he adds, farmers do not want finger pointing at them for allowing trespassing on neighbouring land. But as Farmer 9 said: “visitors should and generally do have the respect not to trespass” and goes on to make the statement, “you should not be able to patent life.” Farmer 11 adds that people interested in geological sites, for example, are usually aware of the countryside code, but it may be worth mentioning closing gates on the bottom of the map. He also suggests, with each farmers permission, including a list of names and phone numbers of all farmers which the map covers their land. In this way he says, those specifically interested in sites not open to the general public can ask permission directly to visit them. He believes that 99.9% of farmers would say yes if asked first and it is just when they come across people trespassing that they are not happy to have them on their land.

## **Survey**

100% of farmers surveyed believe that in giving access to scientists on their land, they should be given the choice as to what happens to information collected, to take forward as they wish. This would get farmers on side and would possibly gain access to land that would otherwise be off-limits to scientists. All farmers believe that everything should be judged on an individual basis, something they say that often that does not happen with



whole-farm agri-environment schemes. Many farmers believe that by making the knowledge that a priority species is present available, by not embarking in habitat management, he would be breaking the rules of cross compliance and would thus be at risk of losing some of his SFP. He believes that this information should not be used to reduce farmers SFP. Farmer 10 believes that a disclaimer should be put out before a survey takes place to give the farmer the option of whether priority species are included in the report or not. He believes that if it is in the farmers wish, nothing would be written down about such species. If this were not the case, he believes that you would lose 30-40% of your possible market.

44% of farmers (Farmers 4,6,9,10,11,13 and 16) do not worry about ecologists and biologists visiting their land, finding rare species and making them change their farming regime by protecting a site. Farmer 4 adds that any rare species is there because of the way that the land has been farmed. However, Farmers 1,2,3,5,7,8,12,14 and 15 are worried to varying degrees, but Farmer 2 adds that he does not really see a great problem as all the land he wants to improve has already been improved and he would not expect it to support anything rare. With regards to the other areas of the farm, he would be more than happy to manage according to a particular species' requirements- an attitude shared by Farmer 5. Farmer 7 is only worried by the over-prescription of schemes, but otherwise is not overly concerned about this. Farmer 15 worries about outside interference and adds that if he had a rare species on his land, he would look after it himself anyway. Farmer 14 makes the point that when selling land containing an SSSI, it may put people off and you may get a lower price. Farmer 12 adds, "if information collected on the farm can be used at will by those who collected it, then you have lost control and it has been nationalised without any payments to the farmer. You are then limited as to what you can do with that land." He then points out, "at the end of the day, the data collected cannot be detrimental to the farmer."

However, Farmer 3 believes that a species of interest is there with or without cross compliance rules, "most significant species are confined to the margins, so this should not be a big issue". He would therefore be willing for all data to be entered into a LRC (Loca Records Centre) database but he adds that in order for any scheme to progress, it is good to give the impression that the landowner is in charge. He adds that, "farmers may think that this is providing another stick for CCW to beat them with", however he then goes on to say that from his point of view, "you find this is never as bad in practice as people worry it might be." Farmer 13 agrees that the farmer should be able to choose what happens to the information, but personally believes that this information should be placed in the public domain unless the farmer can justify otherwise: this will prevent important information being hidden. However, he agrees with the other farmers that this may cause conflict and believes therefore that it would be vital to draw up an official data protection agreement with each farmer.

Farmer 1 believes that no matter how this is worked, information will never be confidential and the farmer will never have the choice about what happens to this information. He also believes that when information is brought together on one map, it becomes dangerous as it means people have easy access to information. He worries that

bringing this information out will lead to yet another inspector looking round your home and says that you really do not want another person looking through your door finding out your trade secrets.

Farmers 8 and 12 made the case that CCW are paid to put areas under SSSI and Farmer 12 went on to point out that in the past, in order to hit targets with SSSIs, CCW at times did not even carry out consultations with farmers prior to declaring a new site a SSSI. Farmer 14 adds that to get farmers on side, this service must be independent and secure.

### **How to get over the clash between farmers and ecologists**

In answer to this question Farmer 15 states, “firstly do not assume there is a clash.” Farmers 2 and 6 believe that with more money being poured into the environment, the clash between farmers and ecologists is not as bad as it has been in the past. It is evident that those completing the survey believed that attitudes of farmers to ecology are changing, but changing slowly. Farmers 3,4 and 6 mention that it appears to be the older generation of farmers that are less interested in developing natural resources, as they are already “set in their ways.”

However, Farmer 2 believes in many cases environmental information is still being forced on the farmer. There are so many cross compliance inspections that one person may see something wrong and report it to another agency. For example, one inspector may come out to look at water quality, notice that an animal is not double tagged and report it back to head office. He believes that there needs to be a build-up of trust, as it may increase what the farmer gives you access to on a follow-up visit. Farmer 5 agrees that it is a slow process of communication from both sides. Farmer 11 adds that farmers need to be convinced that this information will not be used against them, there will be no increase in unnecessary red tape and there needs to be a compromise by both sides. He adds that you need leeway in any conservation programme.

Farmer 1 believes the clash comes about from the way that ecologists can talk to farmers. He says that one bad experience of an ecologist stepping out of line can give them all a bad name. For example, Farmer 1 received a visit from a Farming Assured Welsh Livestock (FAWL) inspector whose opening comment was, “my job is to come out to farmers, see what they are doing wrong and tell them how they should do it right.” Another IACS (Integrated Administration and Control System) inspector’s opening remark was, “in 40 years in this job, I have only ever seen one farmer fill it in properly.” Farmer 1 says that there is no wonder that he is wary of more officialdom when he has been faced with people like this in the past. Farmer 14 agrees that in the past, ecologists have been intricately linked with other government officials in farmers’ minds. They therefore have been put under the same umbrella as bringing more paperwork and more red tape to the farmer. He says that in order to change this view, ecology and red tape need to be separated. Farmer 15 adds that you cannot have official bodies breathing down the necks of farmers. They are fed-up with rules and regulations. He believes that in order for any scheme to work there must be no government interference. Farmer 1 says that ecologists should not be able to threaten farmers, using their cross compliance and SFP to

bribe them with and saying: “we have authority, we can make you lose your SFP”. As Farmer 6 added, “farmers must be given reason to trust that ecologists are not out to pull the mat from under their feet.” Farmer 16 agrees and believes it is necessary to step away from established organisations that tell farmers what to do, never asking. He adds that if a service was partnered with CCW, the information collected will be used to make farmers farm in a certain way. He goes on to say that CCW would then have the right to all data collected, which can then be used as a measuring stick to beat the farmer with. He agrees with Farmer 1 in that any link with CCW will automatically lead the farmer to believe that this service is linked to their SFP and cross compliance. In addition, he goes on to say that this service must also not be linked to the Pembrokeshire Coast National Park.

Farmer 10 believes that to a farmer, there is more to gain than to lose by finding out information about natural assets. However, farmers, he says, need to be made aware of this. The last thing they need is the “big stick” approach. He believes that ecologists should ignore other cross compliance issues (sewage, drains etc) and act as an independent body with a pure interest in the habitat and ecology on the farm, rather than looking into other aspects of farm management. As stated by Farmer 10, he believes that in order to get farmers on side it is important to make them think that they have something special on their farm. If a farmer were to have something special, Farmer 10 believes that they would be proud of it and more likely to share the information and then this information is getting farmers ahead of the game. Farmer 14 also adds that yet again it is important to empower the farmer, “as the farmer, you must be able to have a get-out.”

Farmer 2 says that ecologists must realise that farmers need to make a living from their land. He goes on to say that some environmental organisations just don’t seem to realise this and that those businesses that are actively farming will be in control of the majority of the land in this country in the future, therefore we need to support those people who are actively farming and thus taking care of the environment. He adds that farmers need money to improve slurry facilities, put in ponds and suchlike; surely this is of greater benefit to everyone than putting the money to other uses. Along with Farmer 9, he adds that we need more research in the UK into issues such as slurry waste and rotation and then following on from this a higher rate of provision of this information.

Farmer 1 believes that ecologists need to realise that farmland is a living thing that will change. “Three hundred years ago, there were no hedges and now we can’t take them down.” He believes that it is necessary to get the respect back and compromise. He sees a problem with whole-farm schemes, which get peoples backs up, and asks, “do conservationists want conservation or taxidermy?” He considers that the countryside is an evolving place that must evolve in order to survive and worries that conservationists are trying to preserve unnatural states and unnatural habitats. He states that as grain processes increase, there is now less monoculture as farmers are having to grow their own feed and believes that if ecologists leave farmers alone, these natural cycles will prevail and conservation is unnecessary. He believes that for farmers to take on board this information, any scheme has to make the farmer money and that it all boils down to the fact that if farming was profitable, he may be interested in this information. Along with

Farmer 15, he believes that more money needs to be put into farming and that government money is being poured in the wrong direction. Farmer 1 states: “when money is tight, luxuries go”.

Farmers 3,6,11 and 12 agree that the answer to this question is all in education. Farmer 3 believes that farm colleges should teach ecology modules, not only as side units but in the general curriculum. At the moment, taking an ecology module in agricultural college is often viewed as not generally acceptable. However, he believes that in order to change perceptions, this must be addressed. Farmer 12 suggests giving agricultural training to ecologists so that they are better informed about farming. He speaks for the majority of farmers surveyed here and says, “ecologists need to listen too so we can work together and stop telling farmers that they know nothing”. Farmer 11 believes that this kind of information should be fed back to the whole community and especially back to our schools, across the curriculum and Farmer 13 suggests role reversal for a day for both the farmer and the ecologist.

Farmer 12 adds that it is the farmers who are putting the money into the land, and ecologists often think that they can use this land as a tool, free of charge. He adds that, “farming has created the biodiversity we see today, if there was no farming in the future, there would be no biodiversity to speak of and we would be left with weeds.” Farmer 3 also believes that all subsidies should be removed and that this would allow more of a focus on the future. He comments, “since subsidies started, wildlife has declined” and adds that he personally has never found ecologists heavy handed, but maybe this is not as clean-cut in the media. Farmer 13 adds that, “without farmers, ecologists would be blind and without ecologists, farmers would be misguided” and goes on to say that there must always be a balance. Farmer 15 adds that the farmer must realise how important the soil structure is to him and work with ecologists in keeping it that way.

Finally, the farmers all agree that it is vital that when completing a survey, they must be given a summary of the survey findings. They agree that all too often they give their time but get no information back as to whether the time they gave will actually make any differences in the long-run.

## APPENDIX 3.1: Carmarthenshire Landowner Questionnaire Results

Questions	Farmer C1	Farmer C2
Interested in diversification?	Perhaps in future	Interested in future diversification into using utilities (water/electricity), sustainably making use of wood into planks/firewood and creating D.I.Y. livery complete with wood-chip gallops.
What natural assets are on the land?	Ancient monuments	Woodland, possibility of log cabins for tourists, springs - bottled water? Not sure of iron content.
Interested to learn more about natural assets?	Yes	Yes
Information on Natural Assets	There is not enough information. Tir Cynnal only care that you have got 5% habitat, and Tir Gofal is impossible to get into. When looking for information he would look at Tir Cynnal and IACS maps and search the internet.	There is information available but it depends on the individual and how willing they are to go looking for it. He finds CCW very good. When looking at agri-environment schemes, he says it is not obvious where to look for information except the Welsh Assembly or CCW as well as NFU, CLA, FWAG, CALU.
Workshops?	Would not be interested.	Would go to workshops on diversifying using natural assets, but thinks most farmers would not due to dislike of workshops. "Many workshops involve someone who thinks they are an expert telling you what to do and you end up wasting a day...You would be just getting those people who always go to meetings." It is important to carry out workshops at the correct time of year in the farming calendar (i.e. not at lambing or harvest time). Workshops should be carried out at a local level, on farms with perhaps 10 farmers invited to each, showing the practical aspects. They would be much better attended than large, indoor workshops. Otherwise do them through the Unions, and talk in branch meetings. Should do these workshops but alongside a site-based survey in order to get farmers interested in the first place. It is important to raise awareness and for groups such as PLANED, FWAG, WWBIC, Agri-Angels (Llandeilo) to work together.
Site-based map/survey?	Very interested in map and survey - initially from personal interest, but this could be developed if he could see any financial gain from learning Archaeology and geology should be incorporated and all species within 2km <sup>2</sup> should be included on a map.	Very interested in site-based approach and thinks this is key. The species information on the map should be linked to a simple id key on the web showing species information and habitat requirements. He thinks the map is superb and is a good initial step to get farmers on-board. In addition, a site-based-survey is a good precursor to farmers entered into Tir Gofal, especially as many now accepted will not receive visits until 2009.
Where to start looking for information? Is a hub needed?	Yes, but only useful for those people who need to access the information.	Internet. Although the RSPB do act as a hub of information, many farmers would be dubious about approaching them. Denmark Farm has set up a telephone advisory service. Work with them?

Willing to pay for site-based information?	<p>Unsure initially, as he is not looking to change anything at the moment. Perhaps £100 if it were 50% funded. Would pay up to £300 if the information was useful, for example if he had holiday cottages, and he suggests providing the service at £300 initially and then lowering the cost as it became more widely valued to farmers. However, he believes that it must be followed up with action at ground level, such as putting nest-boxes up in farms free of charge. He thinks the service should be provided as part of Agriscop groups, where speakers are paid to give talks to small groups of farmers on themes based around business improvement. He thinks it should be tied in with existing schemes, perhaps through the Welsh Assembly.</p>	<p>£50 for map and up to £200 for survey, but if it goes over £200, people will not be interested. It is also vital to choose the right people to approach farmers, as many can be put off if someone is overly officious or not knowledgeable and enthusiastic.</p>
Overlap?		<p>Possibility, but there is a gap that needs to be filled. Any project can not just be a talking point.</p>
Confidentiality/Conflict	<p>Anything already in the public domain should not cause problems, but site-specific biodiversity information should not be distributed without permission. He added that farmers need to make money out of ecology and that it is all about reaching a common goal that both are happy with: "farmers and ecologists cannot tell each other what to do."</p>	<p>Personally not worried, but some will. Any information in the public sector should be included on maps, but any survey data should be made public only with the farmer's permission. Perhaps if a priority species is recorded, do not place a management restriction on a site, but monitor the site to ensure that it is not managed in a way to negatively impact the priority species. He is concerned about management restrictions being imposed when allowing conservationists on his land.</p>
Clash?	<p>FBDPs (Farm Business Development Plans) sent to farmers entitled them to an Environmental Opportunities Review (EOR) carried out by ADAS. They carried out a farm environmental survey and provided literature on farm improvement grants enabling schemes such as putting up nest boxes, bat boxes, creating badger gates, gate building etc to be funded. He wants to know what has happened to this scheme and why it is not simply re-opened and built upon.</p>	<p>Conservationists should be on the side of the farmer and not be pushy. Do not tell, but offer guidance and advice, and realise that at the end of the day it is up to the farmer if they take this advice.</p>
Access to internet?	Yes	Yes

## APPENDIX 4: The Extent of Pembrokeshire Intertidal Biotopes

Code	Life Form	Biotope	Frequency	Hectares
44	Algal turf	LR.Rkp.Cor	191	0.50
106	Algal turf	LR.Rkp.Cor.Bif	24	0.23
107	Algal turf	LR.Rkp.Cor.Cys	4	0.05
42	Algal turf	LR.Rkp.G	69	0.17
45	Algal turf	MLR.Eph.Ent	256	6.87
46	Algal turf	MLR.Eph.EntPor	444	32.70
108	Algal turf	MLR.Eph.Rho	85	3.53
81	Algal turf	MLR.R.Mas	82	5.31
80	Algal turf	MLR.R.Osm	138	7.28
82	Algal turf	MLR.R.Pal	45	0.99
78	Algal turf	MLR.R.XR	312	15.61
22	Algal turf	SLR.FX.EphX	83	16.18
28	Biogenic sand reefs	MLR.Sab.Salv	14	0.26
113	Faunal and algal turf	EIR.SG.FoSwCC	18	0.05
79	Fucoids	ELR.FR.Coff	224	16.24
63	Fucoids	ELR.FR.Him	495	43.88
94	Fucoids	LGS.S.AP.Pon	12	84.67
40	Fucoids	LGS.Sh.BarSh	32	5.28
50	Fucoids	LR.Rkp.FK	152	1.59
29	Fucoids	LR.Rkp.FK.Sar	9	0.03
51	Fucoids	LR.Rkp.SwSed	98	1.27
54	Fucoids	MLR.BF.Fser.Fser	70	10.93
55	Fucoids	MLR.BF.Fser.Pid	67	2.75
56	Fucoids	MLR.BF.Fser.R	468	49.67
61	Fucoids	MLR.BF.FvesB	236	34.58
73	Fucoids	MLR.BF.PelB	317	11.22
34	Fucoids	SLR.F.Asc.Asc	194	39.27
36	Fucoids	SLR.F.Asc.VS	42	7.45
47	Fucoids	SLR.F.Fcer	43	2.74
57	Fucoids	SLR.F.Fserr.T	28	2.53
58	Fucoids	SLR.F.Fserr.VS	7	0.34
59	Fucoids	SLR.F.Fspi	538	32.68
60	Fucoids	SLR.F.Fves	91	10.89
102	Fucoids	SLR.F.Pel	346	25.72
19	Fucoids	SLR.FX.AscX	187	90.89
21	Fucoids	SLR.FX.BLlit	27	7.23
23	Fucoids	SLR.FX.FcerX	114	21.60
24	Fucoids	SLR.FX.FserX	102	37.85
99	Fucoids	SLR.FX.FserX.T	24	7.97
25	Fucoids	SLR.FX.FvesX	190	68.75
31	Kelp	EIR.KFaR.Ala	4	1.78
64	Kelp	EIR.KFaR.Ala.Ldig	580	56.40
120	Kelp	EIR.KFaR.Ala.Myt	151	15.40



979577143	Kelp	EIR.KFaR.LhypFa	9	0.81
-272757373	Kelp	EIR.KFaR.LhypR	20	3.68
65	Kelp	MIR.KR.Ldig.Ldig	609	62.22
121	Kelp	MIR.KR.Ldig.Ldig.Bo	9	1.05
68	Kelp	MIR.KR.Ldig.Pid	114	3.87
69	Kelp	MIR.KR.Ldig.T	30	5.09
952099780	Kelp	MIR.KR.Lhyp	15	0.58
943455403	Kelp	MIR.KR.Lhyp.Ft	26	1.10
135	Kelp	MIR.KR.Lhyp.Pk	5	0.65
-272757228	Kelp	MIR.SedK.LsacChoR	1	0.08
85	Kelp	MIR.SedK.Sac	46	1.80
67	Kelp	SIR.K.Lsac.Ldig	2	0.01
104	Kelp	SIR.K.Lsac.T	1	0.15
32	Lichens & algae	LR.CvOv.AudCla	31	0.08
-272757239	Lichens & algae	LR.CvOv.BarCv	64	0.16
-272757240	Lichens & algae	LR.CvOv.Br	6	0.02
-272757236	Lichens & algae	LR.CvOv.GCv	4	0.01
-272757235	Lichens & algae	LR.CvOv.VmucHil	85	0.21
77	Lichens & algae	LR.L.Pra	35	0.47
86	Lichens & algae	LR.L.UloUro	2	0.01
88	Lichens & algae	LR.L.Ver.B	183	12.47
89	Lichens & algae	LR.L.Ver.Por	292	16.20
90	Lichens & algae	LR.L.Ver.Ver	1043	154.78
91	Lichens & algae	LR.L.YG	915	152.39
950790273	Lichens & algae	LR.R	7	0.13
14	Mud	LMU.MU.HedOl	47	135.78
15	Mud	LMU.MU.HedScr	55	152.86
129	Mud	LMU.Mu.HedStr	103	459.87
10	Mud	LMU.SMu.HedMac	17	137.16
133	Mud	LMU.SMu.HedMac.Are	2	0.63
126	Mud	LMU.SMu.HedMac.Mare	5	7.13
137	Mud	LMU.SMu.HedMac.Pyg	5	1.64
5	Muddy sandy shore	IMS.FaMS.EcorEns	4	20.32
116	Muddy sandy shore	LMS.MS.BatCor	13	22.18
4	Muddy sandy shore	LMS.MS.MacAre	4	13.74
125	Muddy sandy shore	LMS.MS.MacAre.Mare	4	2.89
7	Muddy sandy shore	LMS.MS.PCer	8	62.01
132	Mussel beds	SIR.EstFa.MytT	1	0.10
27	Mussel beds	SLR.MX.MytX	56	39.54
	Mussel beds Total		57	39.64
39	Mussels & Barnacles	ELR.MB.BPat	703	163.97
41	Mussels & Barnacles	ELR.MB.BPat.Cat	84	0.68
110	Mussels & Barnacles	ELR.MB.BPat.Cht	534	92.71
111	Mussels & Barnacles	ELR.MB.BPat.Fvesl	619	81.17
70	Mussels & Barnacles	ELR.MB.BPat.Lic	606	32.74
112	Mussels & Barnacles	ELR.MB.BPat.Sem	650	97.44
71	Mussels & Barnacles	ELR.MB.MytB	508	60.50
122	Mussels & Barnacles	MLR.MF.MytFR	60	4.59



72	Mussels & Barnacles	MLR.MF.MytFves	23	2.53
- 1057837691	No Lifeform	No Biotope	29	1.51
128	Saltmarsh	LMU.Sm	186	203.38
17	Saltmarsh	LMU.Sm.NVC SM8	19	26.08
92	Sand	LGS.S.AEur	146	236.80
95	Sand	LGS.S.AP.P	111	424.64
97	Sand	LGS.S.BarSnd	43	16.52
6	Sand	LGS.S.Lan	16	72.88
30	Sand	LGS.S.Tal	141	29.86
8	Sea grass beds	IMS.Sgr.Zmar	1	0.05
16	Sea grass beds	LMS.Zos.Znol	6	71.17
130	Shingle, coarse sand, mixed sediments	IMX.Oy.Ost	2	0.55
115	Shingle, coarse sand, mixed sediments	LGS.Est.Ol	4	3.87
20	Shingle, coarse sand, mixed sediments	LGS.Sh.BarSh	694	132.41
114	Shingle, coarse sand, mixed sediments	LGS.Sh.Pec	1	1.55
2	Shingle, coarse sand, mixed sediments	LMX.Mare	9	4.76
-812181987	Shingle, coarse sand, mixed sediments	LMX.novo.HedOIMx	4	1.49
134	Shingle, coarse sand, mixed sediments	LMX.Psyllid	3	43.01
131	Shingle, coarse sand, mixed sediments	LMX.Psyllid.VS	9	29.74
2036432593	Short faunal turf; crusts & cushions	EIR.SG.CC	5	0.01
1297289406	Short faunal turf; crusts & cushions	EIR.SG.CC.Mob	1	0.00
-615707632	Short faunal turf; crusts & cushions	EIR.SG.SC	4	0.01
84	Short faunal turf; crusts & cushions	EIR.SG.SCAn.Tub	1	0.00
- 1860525939	Short faunal turf; crusts & cushions	EIR.SG.SCAs	5	0.02
952602037	Short faunal turf; crusts & cushions	EIR.SG.SCAs.DenCla	6	0.03
1012313595	Short faunal turf; crusts & cushions	IR.FaSwV.AlcByH	1	0.00
1040231765	Short faunal turf; crusts & cushions	IR.FaSwV.AlcByH.Hia	3	0.01
-272757241	Short faunal turf; crusts & cushions	LR.CvOv.FaC	17	0.04
-272757238	Short faunal turf; crusts & cushions	LR.CvOv.SByAs.Cv	29	0.07
-272757231	Short faunal turf; crusts & cushions	LR.CvOv.SByAs.Ov	82	0.27
-272757237	Short faunal turf; crusts & cushions	LR.CvOv.ScrFa	45	0.11
-272757232	Short faunal turf; crusts & cushions	LR.CvOv.SR.Cv	22	0.06
1889247531	Short faunal turf; crusts & cushions	LR.CvOv.SR.Den.Cv	2	0.01
1006795282	Short faunal turf; crusts & cushions	LR.CvOv.SR.Den.Ov	5	0.02
-272757233	Short faunal turf; crusts & cushions	LR.CvOv.SR.Ov	162	0.49
	Grand Total		16092	4092.93

## APPENDIX 5: Pembrokeshire Local Biodiversity Action Plan - Species list

Common Name	Latin Name	Group
Water vole	Arvicola terrestris	Mammals
European Otter	Lutra lutra	Mammals
Dormouse	Muscardinus avellanarius	Mammals
Skomer vole	Clethrionomys glareolus race	Mammals
Barbastelle	Barbastella barbastellus	Mammals
Greater horseshoe bat	Rhinolophus ferrumequinum	Mammals
Lesser horseshoe bat	Rhinolophus hipposideros	Mammals
Common pipistrelle bat	Pipistrellus pipistrellus	Mammals
Soprano pipistrelle bat	Pipistrellus pigmaeus	Mammals
Brown hare	Lepus europaeus	Mammals
Dolphin species		Marine
Harbour porpoise	Phocoena phocoena	Marine
Grey Seal	Halichoerus grypus	Marine
Commercial fish species		Marine
Freshwater white clawed crayfish	Austropotamobius pallipes	Marine
Native oyster	Ostrea edulis	Marine
Common scoter	Melanitta nigra	Birds
Manx shearwater	Puffinus puffinus	Birds
Storm petrel	Hydrobates pelagicus	Birds
Gannet	Morus bassanus	Birds
Puffin	Fratercula arctica	Birds
Chough	Pyrrhocorax pyrrhocorax	Birds
Barn Owl	Tyto alba	Birds
Lapwing	Vanellus vanellus	Birds
Skylark	Alauda arvensis	Birds
Song thrush	Turdus philomelos	Birds
Tree sparrow	Passer hispaniolus	Birds
Kestrel	Falco tinnunculus	Birds
Kittiwake	Rissa tridactyla	Birds
Reed bunting	Emberiza schoenicus	Birds
Linnet	Carduelis cannabina	Birds
Spotted flycatcher	Muscicapa striata	Birds
Bullfinch	Pyrrhula pyrrhula	Birds
Stonechat	Saxicola torquata	Birds
Whinchat	Saxicola rubetra	Birds
Yellowhammer	Emberiza citrinella	Birds
Peregrine falcon	Falco peregrinus	Birds
Lesser black-backed gull	Larus fuscus	Birds
Razorbill	Alca torda	Birds
Guillemot	Uria aalge	Birds
Short-eared owl	Asio flammeus	Birds

Green woodpecker	<i>Picus viridus</i>	Birds
Curlew	<i>Numenius arquata</i>	Birds
Corncrake	<i>Crex crex</i>	Birds
Water Rail	<i>Rallus aquaticus</i>	Birds
Cetti's warbler	<i>Cettia cetti</i>	Birds
Nightjar	<i>Caprimulgus europaeus</i>	Birds
Broad sea fan	<i>Eunicella verrucosa</i>	Marine
Cushion star	<i>Asterina phylactica</i>	Marine
High brown fritillary	<i>Argynnis adippe</i>	Invertebrates
Pearl-bordered fritillary	<i>Boloria euphrosyne</i>	Invertebrates
Marsh fritillary	<i>Euphydryas aurinia</i>	Invertebrates
Silver-studded blue	<i>Plebejus argus</i>	Invertebrates
Small blue	<i>Cupido minimus</i>	Invertebrates
Brown hairstreak	<i>Thecla betulae</i>	Invertebrates
Thrift clearwing	<i>Synansphecchia muscaeformis</i>	Invertebrates
Southern damselfly	<i>Coenagrion mercuriale</i>	Invertebrates
Small red damselfly	<i>Ceriagrion tenellum</i>	Invertebrates
Hairy dragonfly	<i>Brachytron pratense</i>	Invertebrates
Scarce blue-tailed damselfly	<i>Ischnura pumilio</i>	Invertebrates
Scaly cricket	<i>Pseudomogoplistes squamiger</i>	Invertebrates
Strandline beetle	<i>Nebria complanata</i>	Invertebrates
Hornet robberfly	<i>Asilus crabroniformis</i>	Invertebrates
Mason bee	<i>Osmia parietina</i>	Invertebrates
Shrill carder bee	<i>Bombus sylvarum</i>	Invertebrates
Brown carder bee	<i>Bombus humilis</i>	Invertebrates
Purse web spider	<i>Atypus affinis</i>	Invertebrates
Hairy green snail	<i>Ponentina subvirescens</i>	Invertebrates
Freshwater pearl mussel	<i>Margaritifera margaritifera</i>	Invertebrates
Tentacled lagoon worm	<i>Alkmaria romijni</i>	Invertebrates
Medicinal leech	<i>Hirudo medicinalis</i>	Invertebrates
A snail	<i>Paludinella littorina</i>	Invertebrates
Petalwort	<i>Petalophyllum ralfsii</i>	Lower plants
Veilwort	<i>Pallavicinia lyelii</i>	Lower plants
Slender green feather moss	<i>Hamatocaulis vernicosus</i>	Lower plants
Bacidia incompta	<i>Bacidia incompta</i>	Lower plants
Cladonia peziziformis	<i>Cladonia peziziformis</i>	Lower plants
Scrambled egg lichen	<i>Fulgensia fulgens</i>	Lower plants
Golden hair lichen	<i>Telochistes flavicans</i>	Lower plants
Lungwort	<i>Lobaria pulmonaria</i>	Lower plants
Ramalina polymorpha	<i>Ramalina polymorpha</i>	Lower plants
Pink wax cap	<i>Hygrocybe calyptriformis</i>	Fungi
Wild asparagus	<i>Asparagus officinalis</i> ssp <i>prostratus</i>	Vascular plants
Early gentian	<i>Gentianella anglica</i>	Vascular plants
Dune gentian	<i>Gentianella uliginosa</i>	Vascular plants
Pillwort	<i>Pilularia globulifera</i>	Vascular plants
Floating water plantain	<i>Luronium natans</i>	Vascular plants

Rock sea lavender (endemic taxa)	<i>Limonium binervosum</i> – endemic taxa	Vascular plants
Pale butterwort	<i>Pinguicula lusitanica</i>	Vascular plants
Purple broomrape	<i>Orobancha purpurea</i>	Vascular plants
Newport centuary	<i>Centaureum scilloides</i>	Vascular plants
Bastard balm	<i>Melittis melissophyllum</i>	Vascular plants
Three-lobed water crowfoot	<i>Ranunculus tripartitus</i>	Vascular plants
Prostrate broom	<i>Cytisus scoparius</i> ssp <i>maritimus</i>	Vascular plants
Slender yellow centuary	<i>Cicendia filiformis</i>	Vascular plants
Goldilocks aster	<i>Aster lynosiris</i>	Vascular plants
Small restharrow	<i>Ononis reclinata</i>	Vascular plants
Pale Heath Violet	<i>Viola lactea</i>	Vascular plants
Hairy greenweed	<i>Genista pilosa</i>	Vascular plants
Green winged orchid	<i>Orchis morio</i>	Vascular plants
Spiked speedwell	<i>Veronica spicata</i>	Vascular plants
Fiddle dock	<i>Rumex pulcher</i>	Vascular plants
Wild chamomile	<i>Chamaemelum nobile</i>	Vascular plants
Glasswort	<i>Salicornia pusilla</i>	Vascular plants
Stoneworts	<i>Chara</i> species	Vascular plants
Wilsons filmy fern	<i>Hymenophyllum wilsonii</i>	Vascular plants
Tunbridge filmy fern	<i>Hymenophyllum tunbrigense</i>	Vascular plants
Southern polypody	<i>Polypodium australe</i> ‘cambrican’	Vascular plants
Juniper	<i>Juniperus communis</i>	Vascular plants
Shore Dock		Vascular plants

## APPENDIX 6: Pembrokeshire Protected Sites & their Area

SITE NAME	DESIGNATION	AREA (HA)
Pembrokeshire Coast National Park	National Park	62159.71
Corsydd Llangloffan	National Nature Reserve	40
Grassholm	National Nature Reserve	10.73
Pengelli Forest	National Nature Reserve	66
Ramsey Island	National Nature Reserve	277
Skomer	National Nature Reserve	318
Stackpole	National Nature Reserve	233
Ty Canol	National Nature Reserve	69
Castlemartin Coast	Special Protection Area	1122.32
Grassholm	Special Protection Area	10.73
Ramsey and St. David's Peninsula Coast	Special Protection Area	845.63
Skokholm and Skomer	Special Protection Area	427.71
Cleddau Rivers	Special Area of Conservation	750.73
Gweunydd Blaencleddau	Special Area of Conservation	150.11
Limestone Coast of South West Wales	Special Area of Conservation	1594.53
North Pembrokeshire Woodland	Special Area of Conservation	315.68
North West Pembrokeshire Commons	Special Area of Conservation	248.89
Pembrokeshire Bat Sites and Bosherton Commons	Special Area of Conservation	122.44
Pembrokeshire Marine	Special Area of Conservation	138069.45
Preseli	Special Area of Conservation	2705.9
St. David's	Special Area of Conservation	935.47
Yerbeston Tops	Special Area of Conservation	18.81
Aber Mawr	Site of Special Scientific Interest	4
Aberarth - Carreg Wylan	Site of Special Scientific Interest	992
Abereiddi Coast	Site of Special Scientific Interest	64
Allt Pontfaen - Coed Gelli-Fawr	Site of Special Scientific Interest	73
Angle Peninsula Coast	Site of Special Scientific Interest	134
Beech Cottage, Waterwynch	Site of Special Scientific Interest	0.1
Blaencleddau Pastures	Site of Special Scientific Interest	150
Broomhill Burrows	Site of Special Scientific Interest	200
Bryn Bank Quarry	Site of Special Scientific Interest	1
Carew Castle	Site of Special Scientific Interest	11
Carn Ingli Common	Site of Special Scientific Interest	430
Castlemartin Cliffs and Dunes	Site of Special Scientific Interest	755
Castlemartin Corse	Site of Special Scientific Interest	29

Corsydd Llangloffan	Site of Special Scientific Interest	57
Cwm Bach, Sychpant	Site of Special Scientific Interest	9
Dale and South Marloes Coast	Site of Special Scientific Interest	290
Dowrog Common	Site of Special Scientific Interest	101
Dwrhyd Pit	Site of Special Scientific Interest	0.1
Dyffryn Gwaun	Site of Special Scientific Interest	25
Esgyrn Bottom	Site of Special Scientific Interest	50
Felin Llwyngwair	Site of Special Scientific Interest	0.1
Fishguard Cliffs	Site of Special Scientific Interest	7
Freshwater East Cliffs to Skrinkle Haven	Site of Special Scientific Interest	140
Gallt Llanerch - Coed Gelli-Deg	Site of Special Scientific Interest	30
Garn Wood Kilkiffeth Wood & Dan-Deri-Cwm Felin-Ban	Site of Special Scientific Interest	39
Gas Works Lane Section (Haverfordwest)	Site of Special Scientific Interest	0.4
Grassholm	Site of Special Scientific Interest	11
Hendre Eynon Pastures	Site of Special Scientific Interest	8
Hook Wood	Site of Special Scientific Interest	12
Jeffreyston Pastures	Site of Special Scientific Interest	16
Little Hoyle and Hoyle's Mouth Caved and Woodlands	Site of Special Scientific Interest	3
Lydstep Head to Tenby Burrows	Site of Special Scientific Interest	201
Marloes Mere	Site of Special Scientific Interest	17
Milford Haven Waterway	Site of Special Scientific Interest	2190
Minwear Wood	Site of Special Scientific Interest	14
Mountain Meadows	Site of Special Scientific Interest	5
Mynydd Preseli	Site of Special Scientific Interest	2698
Newgale to Little Haven Coast	Site of Special Scientific Interest	205
Newport Cliffs	Site of Special Scientific Interest	48
Offshore Islets of Pembrokeshire	Site of Special Scientific Interest	22
Orielton Stable Block and Cellars	Site of Special Scientific Interest	0.1
Park House Outbuildings, Stackpole	Site of Special Scientific Interest	0.1
Penally Marsh	Site of Special Scientific Interest	10
Pengelli Forest and Pant-teg Wood	Site of Special Scientific Interest	66
Portheiddy Moor	Site of Special Scientific Interest	10
Ramsey Island	Site of Special Scientific Interest	277
Ritec Fen	Site of Special Scientific Interest	43
Robeston Wathen Quarries	Site of Special Scientific Interest	2
Saundersfoot - Telpyn Coast	Site of Special Scientific Interest	152
Shoalshook Railway Cutting and Pit	Site of Special Scientific Interest	1
Skokholm Island	Site of Special Scientific Interest	108

Skomer Island and Middleholm	Site of Special Scientific Interest	316
Slebech Stable Yard Loft, Cellars and Tunnels	Site of Special Scientific Interest	0.1
St. Brides's Bay South	Site of Special Scientific Interest	134
St. David's Airfield Heaths	Site of Special Scientific Interest	54
St. David's Peninsula Coast	Site of Special Scientific Interest	685
St. Margaret's Island	Site of Special Scientific Interest	11
Stackpole	Site of Special Scientific Interest	314
Stackpole Courtyard Flats and Walled Garden	Site of Special Scientific Interest	0.1
Stackpole Quay - Trewent Point	Site of Special Scientific Interest	64
Strumble Head - Llechdafad Cliffs	Site of Special Scientific Interest	204
Tenby Cliffs and St. Catherine's Island	Site of Special Scientific Interest	47
Tre-Rhos Common	Site of Special Scientific Interest	16
Trefeiddan Moor	Site of Special Scientific Interest	22
Treffgarne Bridge Quarry	Site of Special Scientific Interest	0.4
Treffgarne Gorge and Tors	Site of Special Scientific Interest	32
Tretio Common	Site of Special Scientific Interest	57
Ty Canol Wood	Site of Special Scientific Interest	73
Wallis Moor	Site of Special Scientific Interest	63
Waterwynch Bay to Saundersfoot Harbour	Site of Special Scientific Interest	87
Waun Fawr, Puncheston	Site of Special Scientific Interest	8
Waun Fawr, St. David's	Site of Special Scientific Interest	15
Wyndrush Pastures	Site of Special Scientific Interest	46
Yerbeston Moors	Site of Special Scientific Interest	91
Cemaes Head	Wildlife Trust Reserve	20
Coed Pont Bren	Wildlife Trust Reserve	2
Dowrog Common	Wildlife Trust Reserve	101
Garne Turn Rocks	Wildlife Trust Reserve	3
Goodwick Moor	Wildlife Trust Reserve	15.4
Llangloffan Fen	Wildlife Trust Reserve	15.8
Llanerch Alder Carr	Wildlife Trust Reserve	2
Pembroke Upper Mill Pond	Wildlife Trust Reserve	5
Pengelli Forest	Wildlife Trust Reserve	65
Penralltfach	Wildlife Trust Reserve	4
St. Margaret's Island	Wildlife Trust Reserve	7
Skokholm Island	Wildlife Trust Reserve	100
Skomer Island	Wildlife Trust Reserve	292
Temple Bar Carr	Wildlife Trust Reserve	Not known
West Williamston	Wildlife Trust Reserve	20
Westfield Pill	Wildlife Trust Reserve	4.7

		<b>Length (Kilometres)</b>
Dinas Head	Pembrokeshire Heritage Coast	13
Marloes and Dale	Pembrokeshire Heritage Coast	47
South Pembrokeshire	Pembrokeshire Heritage Coast	60
St. Brides Bay	Pembrokeshire Heritage Coast	7
St. David's Peninsula	Pembrokeshire Heritage Coast	75
St.Dogmaels and Moylgrove	Pembrokeshire Heritage Coast	20



## APPENDIX 7: Pembrokeshire Sites of Special Scientific- Reasons for notification

NAME	REASON FOR NOTIFICATION
Aber Mawr	Geological -Pleistocene Quaternary
Aberarth-Carreg Wylan	Geological/Intertidal Marine habitats/reef/plant and invertebrate species.
Angle Peninsula Coast	Geological – Devonian /intertidal rock sand and gravel habitats/chough.
Arfordir Abereiddi	Geological – Arenig Llanvirn/ Ordovician Igneous/littoral zone and grey seals.
Arfordir Niwawl i Aber Bach/Newgale to Little Haven Coast (inc Broad Haven to Settling Nose Cliffs and Druidston and Nolton Haven).λ	Geological – Upper Carboniferous/ Variscan/Quaternary/ marine biology.
Allt Pontfaen - Coed Gelli-fawr	Woodland/lichen
Beech Cottage, Waterwynch	Bats/Lesser Horseshoe
Broomhill Burrows	Geological - Devonian/sand-dune/inter-tidal/ maritime cliff/plant/ invertebrate/Petalwort
Carew Castle	Bats/Greater Horseshoe
Carn Ingli Common	Heathland/flush/rock outcrops/lichen/damselfly ( <i>Coenagrion mercuriale</i> )
Castlemartin Cliffs & Dunes	Geological - Variscan/Dinantian/coastal geomorphology/various communities/mixtures/assemblages/species/ plants/seabirds
Castlemartin Corse	Fen/standing water
Chwaral Bryn Banc (Bryn Bank Quarry)	Geological - Llandeilo

Coed Ty-canol (Tycanol Wood)	Woodland/dry heath/marshy grassland/acid grassland/flushes/ lichen/rock outcrop/plant assemblage/dormouse
Comins Tre-rhos (Tre-rhos Common)	Wet heath/mire/plant assemblage
Cors Penally (Penally Marsh)	Fen/neutral grassland/marshy grassland
Corsydd Llangloffan	Woodland/marshy grassland/fen/swamp/lichen/ invertebrate/ otter/bullhead/river lamprey/brook lamprey
Creigiau Abergwaun (Fishguard Cliffs)	Geological - Ordovician Igneous
Cwm Bach, Sychpant	Woodland/acid grassland/lichen/invertebrate
Dale and South Marloes Coast (inc. St Ann's Head & Deer Park)	Geological – Llandovery/Variscan/Wenlock/Non-marine Devonian/ Caledonian Igneous; Sandy shore marine communities and green algal communities; Grey seals/ lichen/ maritime grassland/ heath/ chough.
Dowrog Common	Dry heath/wet heath/fen/swamp/standing/water/ invertebrate/birds/ plants
Dwrhyd Pit	Geological - Cambrian
Dyffryn Gwaun	Woodland/marshy grassland/fen/lichen/plants
Esgyrn Bottom	Geological - Pleistocene Quaternary/woodland/marshy grassland/raised bog/plants
Felin Llwyngwair	Bats/Greater Horseshoe
Freshwater East Cliffs to Skrinkle Haven	Geological - Variscan/non-marine Devonian/Palaeobotany/ coastal grassland/maritime cliff /coastal

	heathland/plant/ invertebrate/lichen ( <i>Teloschistes flavicans</i> )
Gallt Llanerch - Coed Gelli-deg	Woodland/lichen
Garn Wood, Kilkiffeth Wood & Dan-deri - Cwm Felin-	Woodland/lichen
Gas Works Lane Section (Haverfordwest)	Geological - Llandovery
Grassholm/Ynys Gwales	Intertidal/maritime cliff/coastal grassland/gannets/grey seals
Gweunydd Blaencleddau	Marshy grassland/wet-heath/blanket bog/fen Southern Damselfly/Marsh Fritillary
Hendre Eynon Pastures	Neutral grassland/marshy grassland
Hook Wood	Woodland/salt-marsh
Jeffreyston Pastures	Neutral grassland/marshy grassland/Waxcap
Little Hoyle and Hoyle's Mouth Cave and Woodlands	Geological - Pleistocene Quaternary/woodland
Lydstep Head to Tenby Burrows	Maritime cliff/calcareous grassland/sand-dune/plant assemblage/ <i>Limonium transwallianum</i> , <i>Ononis reclinata</i> , <i>Gentianella uliginosa</i> , <i>Asparagus officinalis</i> <i>ssp. prostratus</i> , <i>Orchis morio</i>
Marloes Mere	Marshy grassland/acid grassland/standing water
Milford Haven Waterway:	Geology – non-marine Devonian/ ancient woodland/ marine biology/ saltmarsh/ swamp/ saline lagoons/ rare and scarce plants and invertebrate/ waterfowl/ greater & lesser horseshoe bats/otter.
Angle Bay	Saltmarsh communities and intertidal communities/ waterfowl/ greater & lesser horseshoe bats/ otter.

Carew and Cresswell Rivers	Saltmarsh/Saline lagoon/intertidal communities/plants/invert/waterfowl/bats/otter.
Cosheston	Saltmarsh/Intertidal communities/plants/bats/otters/waterfowl.
Dale Point to Musselwick Point (inc Gann Estuary)	Saltmarsh/saline lagoon and other communities.
Daugleddau (inc. Slebech reed bed and carr)	Saltmarsh/saline lagoon/intertidal communities/ plants/ invertebrate/waterfowl/bats/otters.
Lawrenny Wood	Sessile Oak woodland supporting lichens/mosses/liverworts also horseshoe bats and otters.
Littlewick Point – Brunel Quay	Coastal strip/saltmarsh/intertidal communities/plants/otters/bats.
Milford Haven South	Saltmarsh/Swamp/intertidal communities/waterfowl/bats/otters.
Musselwick Point to Littlewick Point	Geological – non marine Devonian/intertidal communities, mosses/liverworts/greater and lesser horseshoe bats/otters.
Pembroke River	Saltmarsh, intertidal communities, plants and waterfowl/bats/otter.
Sandy Haven	Saltmarsh/reedbed/intertidal habitats/bats/otter and waterfowl.
Minwear Wood	Woodland
Mountain Meadows	Neutral grassland/invertebrate
Mynydd Preseli	Geological - Pleistocene Quaternary/acid grassland/marshy grassland/dry heath/wet heath/mire/invertebrate/plant/bryophyte
Newport Cliffs	Maritime cliff/coastal heath/coastal grassland/bird/plant (Perennial centaury <i>Centaureum scilloides</i> )
Offshore Islets of Pembrokeshire	Maritime habitats/maritime grassland/ rocky shore/ communities/ grey seals.
Orielton Stable Block and Cellars	Bats/Lesser Horseshoe
Park House Outbuildings,	Lesser Horseshoe Bats.

Stackpole	
Pengelli Forest & Pant-teg Wood	Woodland/plants/dormouse
Portheiddy Moor	Marshy grassland/fen/spring/swamp
Ramsey	Geological - Ordovician Igneous, Arenig-Llanvirn/maritime cliff/coastal heathland/acid grassland/neutral grassland/flush and spring/standing water/inter-tidal/plant/chough/ <i>Teloschistes flavicans</i> /grey seal
Rhosydd Yerboston/ Yerboston Moors  Yerboston Tops Shortland and Copybush Moor Big Pencoed Moors Ramshorn Moors Tedion Mountain Tedion Moor Furzehill Moors Mountain Park Moors Yerboston Gate Moors	Marshy grassland/ neutral grassland/ marsh fritillary.
Ritec Fen	Swamp/woodland/neutral grassland/marshy grassland/flush and spring
Robeston Wathen Quarries	Geological - Caradoc/Ashgill
Saundersfoot to Telpyn Coast	Geological – Westphalian A & B and intertidal communities.
Shoalshook Railway Cutting & Pit	Geological - Caradoc/Ashgill
Skokholm	Coastal grassland/marshy grassland/flush and spring/standing water/inter-tidal/bird/lichen/Manx shearwater/puffin/lesser black-backed gull, storm petrel, razorbill, chough, grey seals, lichen ( <i>teloschistes flavicans</i> ).

Skomer Island & Middleholm	Geological – Llandovery/Silurian Igneous/inter-tidal/maritime cliff/coastal grassland/coastal heathland /acid grassland/marshy grassland /wet heath/flush and spring /standing water/ plant/bird /invertebrate/lichen/alga/chough/ guillemot/ razorbill/puffin/storm petrel/Skomer vole/lesser black-backed gull/short-eared owl/seal/ Manx shearwater/ pintail/ <i>Teloschistes flavicans</i> / <i>Parmelia tinctina</i> <i>/Ramalina polymorpha/Rocella fuciformis</i>
Slebech Stable Yard, Loft, Cellars & Tunnels	Greater Horseshoe
St Bride's Bay South	Geology – Varisican/ Rockground sandy shore/marine communities/grey seals/ancient woodland
St David's Airfield Heaths	Marshy grassland/wet heath/fen/swamp/standing water/plants
St David's Peninsula Coast  Site 1 - Porth Clais - Solva Cliffs Site 2 - Porth Clais - Whitesands Bay Cliffs Site 3 - Solva Harbour Site 4 - Solva to Cwmbach Cliffs Site 5 - St David's Head	Maritime grassland/maritime heath/lichen/chough  Site 1 - Precambrian and Cambrian Site 2 - Precambrian/Pleistocene Quaternary/Cambrian Site 3 - Coastal geomorphology/Cambrian Site 4 - n/a Site 5 - Ordovician Igneous/Arenig-Llanvirn
St Margaret's Island	Cormorant
Stackpole	Lichen heath/standing water/sand- dune/maritime cliff/ coastal grassland/inter-tidal/woodland /fen/swamp/coastal heathland/plant/bird/invertebrate/lichen/ chough/ <i>Ononis reclinata</i> / <i>Paludinella littorina</i> / <i>Fulgensia fulgens</i> / <i>Bacidia herbarum</i> /otter/ <i>Limonium parvum</i> /greater horseshoe bat/lesser horseshoe bat/ <i>Teloschistes flavicans</i> /silver studied blue butterfly

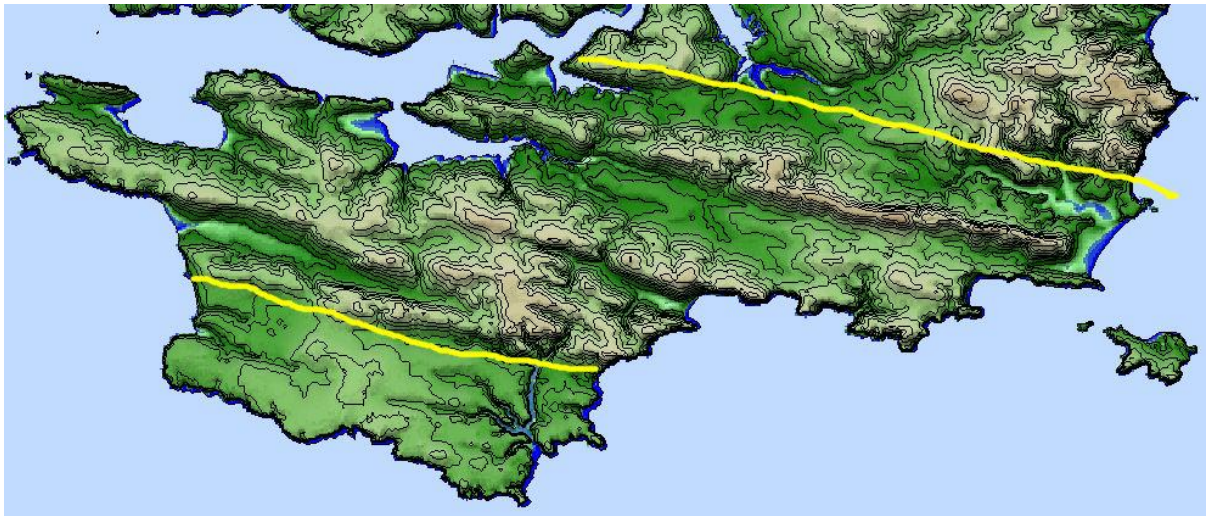
Stackpole Courtyard Flats & Walled Garden	Greater/Lesser Horseshoe Bats
Stackpole Quay - Trewent Point	Geological - Variscan/Wenlock/neutral grassland/inter-tidal/ maritime cliff/coastal grassland/coastal heathland/plants/ <i>Ononis reclinata</i>
Strumble Head - Llechdafad Cliffs	Geological - Ordovician Igneous/maritime cliff/mire/flush/coastal heath/coastal grassland /lichen/chough/plants
Tenby Cliffs & St Catherine's Island	Geological - Dinantian(South Cliffs), Namurian (Tenby Beach (north))/lichen/invertebrate (marine)
Trefeiddan Moor	Marshy grassland/wet heath/swamp/fen
Treffgarne Bridge Quarry	Geological - Cambrian
Treffgarne Gorge & Tors	Geology – Precambrian/heathland/grassland/river/otter/ bullhead/river lamprey/brook lamprey.
Tretio Common	Marshy grassland/wet heath/fen/plant
Wallis Moor	Acid grassland/marshy grassland/wet heath/fen/swamp/ invertebrate/marsh fritillary
Waterwynch Bay to Saundersfoot Harbour	Geological – Upper Carboniferous/marine communities/coastal scrub/ maritime heath and grassland
Waun Fawr, Puncheston	Marshy grassland/wet heath/flush & spring/ <i>Coenagrion mercuriale</i>
Waun Fawr, Ty Ddewi (St David's)	Wet heath/marshy grassland
Wyndrush Pastures	Neutral grassland/marshy grassland/acid grassland/ tall-herb fen



## **APPENDIX 8: Detailed sample report on one of the Geomorphological areas in Pembrokeshire**

Reports for the remaining 17 geological areas in Pembrokeshire will be prepared by Sid Howells with support from WWBIC and other agencies over time. Please contact Sid Howells for further detailed information if you require it (page 14). This sample report is copyright of Sid Howells.

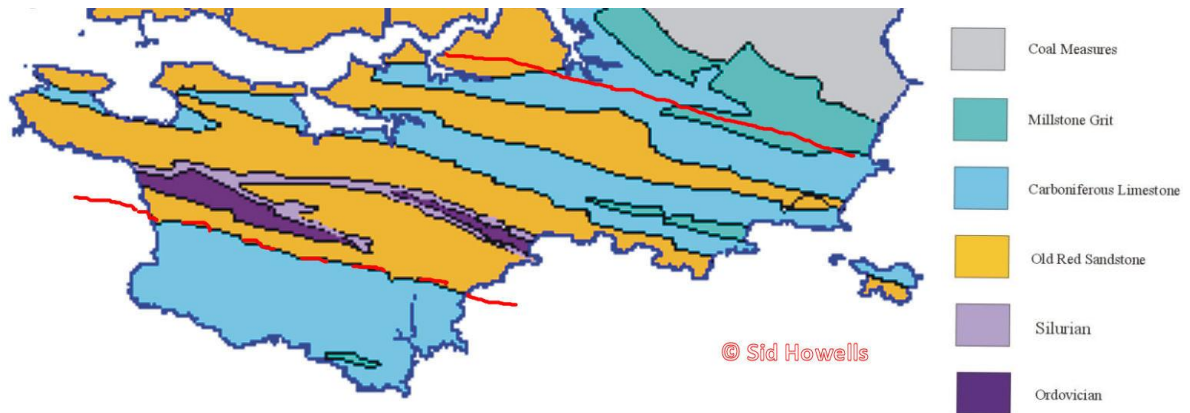
### **Ridge and vale scenery in South Pembrokeshire**



In the area extending across south Pembrokeshire from Thorn Island to Caldey Island (and approximately 7km wide from SSW to NNE) there is a distinctive 'ridge and vale' type of scenery, formed by differential erosion of hard and soft rock outcrops.

The outcrop pattern (denoting where the rocks are present but not necessarily exposed as they are usually covered by soil) has resulted from folding which occurred during 'collision' of continents around 290 million years ago (at the end of the Carboniferous Period).

Ordovician shales, Silurian sandstones, Old Red Sandstone, Carboniferous Limestone and shales and sandstones of the Millstone Grit Series are all present in this area. At the coast the harder rocks generally stand out as headlands whilst softer rocks have been eroded to form bays.



### ***Geology of the area displaying ridge & vale scenery***

The most prominent landscape feature, extending west from Thorn Island to Penally, but breached at Angle Bay and Pennar Gut, is The Ridgeway. The height of this ridge reaches 90m OD in places. Other ridges to the south have been truncated by marine erosion and some are also indented by south-facing bays. These bays have mainly developed in areas where there are closely-spaced faults (fractures that have penetrated and displaced the rocks, sometimes by several hundred metres).



### ***Eastern end of The Ridgeway at Penally***

Faulting originally occurred in response to the compressional forces involved in the 'collision of continents' mentioned above. These forces are no longer present, but very slight movements may occur, particularly in limestone areas in response to lowering of groundwater level in times of drought or through prolonged pumping for water supply. Many faults can be traced inland from gullies in the coastline and they have often

been picked out by streams. For example, most of the ‘dingles’ on the south-facing slopes of the Ridgeway are fault-guided.

The Ritec Fault runs from Tenby westwards to Pembroke Dock, continuing beneath Milford Haven and then through the Dale Valley and out into the Irish Sea. This forms the northern boundary of the ridge and vale scenery, and is a regionally significant fault which has been associated with relatively minor earthquakes (the most recent of these was in 1892).

## APPENDIX 9: The provision of Historic Environment Record (HER) data in Pembrokeshire to inform the Natural Capital Audit

*This section of the report is contributed by Marion Page, of Cambria Archaeology. All photographs and text are the copyright of Cambria Archaeology. This part of the overall report, and the digital HER data that has been supplied with it, must only be used for the purpose of the Natural Capital Audit.*

### The dataset

The Historic Environment Record is compiled from diverse sources on an ongoing basis. Although every attempt is made to ensure the accuracy of the HER, Cambria Archaeology cannot provide any guarantee as to the accuracy of any information contained within it. Information provided is therefore not a definitive source but reflects the state of the Record on the date that it was last updated.

In order to inform the audit, two shape files of HER data have been supplied along with this report. The first dataset (Pemb\_ngr) is the same as that which was supplied to the Welsh Assembly Government to inform the entry level agri-environment scheme (Tir Cynnal) and the Single Farm Payments. The information consists of core data about each site, e.g. its name, type of site, the period it dates from, any statutory status, its unique identifier (PRN) and locational information. The datasets do not include records of archaeological fieldwork that have been undertaken in the area, nor of records that were created based on place-name evidence. They do, however, include records based upon information gained from documentary sources such as historic maps and aerial photographs. Selecting the data in this way is a means of ensuring that all visible and important monuments are included and is a manageable way of keeping it up to date as new information becomes available.

Due to the ad hoc way in which the data has been gathered the quality of information about each site varies and there are areas where the Record needs improving. Grid references for instance, especially in earlier records, may not be as accurate as those for records created since the advent of digital mapping and GPS. In many cases this means that the point on the digital map does not accurately reflect the real location of an archaeological site. To give an indication of grid reference accuracy the points in GIS have been colour-coded as follows: -

- ☐ = A four figure grid reference e.g. SN7613. Accurate to within 1000m. **618 records**
- ☐ = A six figure grid reference e.g. SN527945. Accurate to within 100m. **1587 records**
- ☐ = An eight figure grid reference e.g. SN25749538. Accurate to within 10m. **8435 records**
- ☐ = A ten figure grid reference e.g. SN4845638342. Accurate to within 1m. **793 records**

3 = A site whose grid reference has been recorded using an odd number. **16 records**

The second dataset (Pemb\_condition) consists of the same core data, but instead of colour coding to indicate NGR accuracy the points are coded according to the recorded condition of each site and the existence, or not, of a written description for it within the Historic Environment Record.

3 = Condition A (Intact) or B (Substantially intact), with a description. **2302 records**

3 = Condition A or B, without a description. **469 records**

3 = Condition C (Damaged) or D (Substantial destruction), with a description. **1525 records**

3 = Condition C or D, without a description. **360 records.**

3 = Condition unknown/monument restored/converted/moved or no condition information recorded, but with a description. **4187 records**

3 = Condition unknown/monument restored/converted/moved, or no condition information recorded, and with no description. **2605 records**

No geographical information on the extent of identified features is available.

## Information management

The Regional Historic Environment Record is a dynamic resource. New sites are continuously being recorded with the effect that any dataset supplied to an external organisation quickly becomes out of date. The design of any project arising from the Natural Capital Audit will need to include a mechanism for the provision of updated information, and this will have to be developed in conjunction with HER staff.

## Interpretation of the dataset

The HER is an index to information about a huge variety of archaeological remains from many different periods of time and as such is a technical tool requiring interpretation. Where only a little information is recorded for a site, for instance a record of a burnt mound that does not have a description, interpretation of the information requires a basic level of archaeological understanding. When data is passed on to third parties it is important that information on a wide range of issues relating to the interpretation and management of the sites is available to enable them to understand the resource.

At present there is no funding available for targeted enhancement of the Record such as writing descriptions for sites that don't yet have them, or rectifying incorrect grid references and other inaccuracies. And while Cambria Archaeology provides an enquiries service free of charge for the public, staffing and other resource levels mean that we may not be able to cope with a large number of enquiries within a reasonable timescale. At present we do not have the resources to provide interpretation and management advice for such a potentially large number of sites, particularly when it is often necessary to visit a site before this kind of information can be given. We are therefore concerned that there

is currently no proposal included in the project design to develop a structure to enable us to deliver further information and advice to the level that it may be required.

We therefore suggest that a guidance booklet, giving basic information and generic management advice, be commissioned to go with the maps that will be provided to farmers. Examples of information booklets can be seen on the English Heritage Historic Environment Local Management website – [www.helm.org.uk](http://www.helm.org.uk)



## APPENDIX 10: Scheduled Ancient Monuments: Pembrokeshire

SAM Number	SAM Name	Site Type	Period	Community
PE001	Carew Castle	Motte & Bailey	Medieval	Carew
PE002	Cilgerran Castle	Castle	Medieval	Cilgerran
PE003	Lamphey Palace	Palace	Medieval	Lamphey
PE004	Manorbier Castle	Castle	Medieval	Manorbier
PE005	Pembroke Castle	Castle	Medieval	Pembroke
PE006	St David's Cathedral Close: The Bishops Palace and Garden	Palace	Medieval	St Davids and the Cathedral Close
PE007	Tenby Town Wall	Town Wall	Medieval	Tenby
PE008	Pentre-Ifan Burial Chamber	Chambered tomb	Prehistoric	Nevern
PE009	Carew Cross	Cross	Early Medieval	Carew
PE010	Foel Drygarn Camp	Hillfort	Prehistoric	Crymych
PE011	Carn Ingli Camp	Hillfort	Prehistoric	Newport
PE012	St Patrick's Chapel	Chapel	Early Medieval	St Davids and the Cathedral Close
PE013	St Non's Chapel	Chapel	Early Medieval	St Davids and the Cathedral Close
PE014	St Justinian's Chapel	Chapel	Early Medieval	St Davids and the Cathedral Close
PE015	Pembroke Town Wall	Town Wall	Medieval	Pembroke
PE017	Haverfordwest Priory	Priory	Medieval	Haverfordwest
PE018	St Davids Cathedral Close: Close Wall and Sites of Former Gateways	Wall	Medieval	St Davids and the Cathedral Close
PE019	Carn Ingli Round Barrows	Round barrow	Prehistoric	Newport
PE020	Devil's Quoit Burial Chamber	Chambered tomb	Prehistoric	Angle
PE021	Bulliber Hill Camp	Enclosure	Prehistoric	Castlemartin
PE022	Tump Round Barrow	Round barrow	Prehistoric	Hayscastle
PE023	Llawhaden	Bridge	Medieval	Llawhaden



	Bridge			
PE024	Llawhaden Castle	Castle	Medieval	Llawhaden
PE025	Colston Burial Chamber	Chambered tomb	Prehistoric	Puncheston
PE026	Llan Burial Chamber	Chambered tomb	Prehistoric	Lampeter Velfrey
PE027	Tre-Ffynnon Burial Chamber	Chambered tomb	Prehistoric	Brawdy
PE028	Lecha Burial Chamber	Chambered tomb	Prehistoric	Llanrhian
PE029	Castell Coch Promontory Fort	Promontory Fort - inland	Prehistoric	Llanrhian
PE030	Garn Wen Burial Chambers	Chambered tomb	Prehistoric	Fishguard and Goodwick
PE031	Carn Wnda Burial Chamber	Chambered tomb	Prehistoric	Pencaer
PE032	Garn Gilfach Burial Chamber	Chambered tomb	Prehistoric	Pencaer
PE033	Pen-Rhiw Burial Chamber	Chambered tomb	Prehistoric	Fishguard and Goodwick
PE034	Castell Meherin Camps	Hillfort	Prehistoric	Lampeter Velfrey
PE035	King's Quoit Burial Chamber	Chambered tomb	Prehistoric	Manorbier
PE036	Carreg Samson Burial Chamber	Chambered tomb	Prehistoric	Mathry
PE037	Tre-Wallter Llwyd Burial Chamber	Chambered tomb	Prehistoric	Mathry
PE038	Ynys y Castell	Hillfort	Prehistoric	Mathry
PE039	Mountain Burial Chamber	Chambered tomb	Prehistoric	Mynachlog-Ddu
PE040	Narberth Castle	Castle	Medieval	Narberth
PE041	Trellyffaint Burial Chamber & Standing Stone	Chambered tomb	Prehistoric	Nevern
PE042	Carn Llidi Burial Chambers	Chambered tomb	Prehistoric	St Davids and the Cathedral Close
PE043	Burial Chamber	Chambered tomb	Prehistoric	Solva
PE044	Trefflys Burial Chamber	Chambered tomb	Prehistoric	Pencaer
PE045	Rhos y Clegyrn Circle & Standing Stone	Standing stone	Prehistoric	Pencaer
PE046	Greenala Camp	Promontory Fort - inland	Prehistoric	Stackpole

PE047	Mesur-y-Dorth Cross-Incised Stone	Cross-marked stone	Early Medieval	Llanrhian
PE049	Llech-y-Tribedd Burial Chamber	Chambered tomb	Prehistoric	Nevern
PE050	Cerig-y-Gof Burial Chamber	Chambered tomb	Prehistoric	Newport
PE051	Carn Ffoi Camp	Hillfort	Prehistoric	Newport
PE052	Carn Ffoi Prehistoric Settlement	Hut circle settlement	Prehistoric	Newport
PE053	Castell Coch	House (domestic)	Medieval	Martletwy
PE054	Coetan Arthur Burial Chamber	Chambered tomb	Prehistoric	St Davids and the Cathedral Close
PE055	Merrion Camp	Enclosure	Prehistoric	Castlemartin
PE056	Carreg Coetan Burial Chamber	Chambered tomb	Prehistoric	Newport
PE057	Bowett Wood Camp	Enclosure	Prehistoric	Hundleton
PE058	Castle Flemish	Enclosure	Roman	Ambleston
PE059	Corston Beacon Round Barrow	Round barrow	Prehistoric	Hundleton
PE060	Dry Burrows Round Barrows	Round barrow	Prehistoric	Hundleton
PE061	Garn Turne Burial Chamber	Chambered tomb	Prehistoric	Wolfscastle
PE062	Pen-Dre Round Barrow	Round barrow	Prehistoric	Letterston
PE063	Tre-Howell Burial Chamber	Chambered tomb	Prehistoric	Hayscastle
PE064	Wallaston Round Barrows	Round barrow	Prehistoric	Hundleton
PE065	Garn Fawr Camp	Hillfort	Prehistoric	Pencaer
PE066	Burton Burial Chamber	Chambered tomb	Prehistoric	Burton
PE067	Angle Dovecot	Dovecote	Medieval	Angle
PE068	The Tower	Tower	Medieval	Angle
PE069	Angle Castle	Building (Unclassified)	Medieval	Angle
PE070	Pill Priory	Priory	Medieval	Milford
PE071	St David's Head Camp	Promontory Fort- coastal	Prehistoric	St Davids and the Cathedral Close
PE072	Llanwnwr Cross- Slab	Cross-marked stone	Early Medieval	Pencaer
PE073	St Dogmaels	Abbey	Medieval	St Dogmaels

	Abbey			
PE075	Dinas Mawr Camp	Promontory Fort-coastal	Prehistoric	Pencaer
PE077	Wiston Castle	Motte & Bailey	Medieval	Wiston
PE078	Hang Stone Davey Near Lamber Smithy	Cross-marked stone	Early Medieval	The Havens
PE079	Medieval Crypt at Corner of Market Street and High Street	House (domestic)	Medieval	Haverfordwest
PE080	Castell Poeth	Enclosure	Prehistoric	Pencaer
PE081	Castell Hendre-Wen	Enclosure	Prehistoric	Scleddau
PE082	Round Barrow on Jordanson Hill	Round barrow	Prehistoric	Scleddau
PE083	Carew Bridge	Bridge	Medieval	Carew
PE085	Blaengwaith-Noah Camp	Promontory Fort - inland	Prehistoric	Lampeter Velfrey
PE086	Llanddewi Gaer	Promontory Fort - inland	Prehistoric	Llanddewi Velfrey
PE087	Newport Castle (Unoccupied parts)	Castle	Medieval	Newport
PE089	Woodbarn Camp	Rath	Prehistoric	Wiston
PE090	Rath 150m SE of Pelcomb Farm	Rath	Prehistoric	Camrose
PE093	Hut Circles and Ancient Enclosures NW of Carn Llidi	Field system	Prehistoric	St Davids and the Cathedral Close
PE094	The City Cross	Cross	Medieval	St Davids and the Cathedral Close
PE096	Castle Point Old Fort	Fort	Post-Medieval/Modern	Fishguard and Goodwick
PE097	Castle Mound Llanfyrnach	Motte	Medieval	Crymych
PE098	Chapel and Burial Ground near Tre-Henry	Chapel	Medieval	Crymych
PE099	Gaer 270m W of Glan-Dwr Farm	Enclosure	Prehistoric	Crymych
PE101	Rudbaxton Rath	Rath	Prehistoric	Rudbaxton
PE102	Camp 400m NW of Holgan	Promontory Fort - inland	Prehistoric	Llawhaden
PE104	Camp 370m NE	Enclosure	Prehistoric	Llawhaden

	of Stoneyford			
PE105	Camp 200m NE of Stoneyford	Promontory Fort-coastal	Prehistoric	Llawhaden
PE107	Drim Camp	Ringwork	Early Medieval	Llawhaden
PE108	Parc y Castell Mound and Bailey Castle	Castle	Medieval	St Davids and the Cathedral Close
PE109	Clegyr-Boia Camp	Hillfort	Prehistoric	St Davids and the Cathedral Close
PE110	Sentence Castle Mound	Motte	Medieval	Templeton
PE112	Fishpond Camp	Promontory Fort-coastal	Prehistoric	Stackpole
PE113	Standing Stone 290m S of Mabesgate	Standing stone	Prehistoric	St Ishmael's
PE114	Round Barrow Pair 175m N of Ramswood House	Round barrow	Prehistoric	Rudbaxton
PE115	Vaynor Gaer	Ringwork	Prehistoric	Llawhaden
PE116	Waun Lwyd Standing Stones	Standing stone	Prehistoric	Mynachlog-Ddu
PE117	Gors Fawr Stone Circle	Stone circle	Prehistoric	Mynachlog-Ddu
PE118	Standing Stone near Prysg Farm	Standing stone	Prehistoric	Maenclochog
PE119	Eithbed Enclosure	Enclosure	Prehistoric	Maenclochog
PE120	Dyffryn Stone Circle	Stone circle	Prehistoric	Puncheston
PE121	Ty-Newydd Standing Stones	Standing stone	Prehistoric	Mynachlog-Ddu
PE122	Bedd yr Afanc Burial Chamber	Chambered tomb	Prehistoric	Eglwyswrw
PE124	Waun Mawn Standing Stones	Standing stone	Prehistoric	Eglwyswrw
PE126	Parc-y-Meirw Standing Stones	Stone Row	Prehistoric	Cwm Gwaun
PE130	Tre-Maen Hir Standing Stones	Standing stone	Prehistoric	Solva
PE131	Pen-Lan-Mebws-Uchaf Burial Chamber	Chambered tomb	Prehistoric	Mathry
PE132	Clyn-Ffwrn Burial Chamber	Chambered tomb	Prehistoric	Hayscastle
PE133	Parc-y-Llyn Burial Chamber	Chambered tomb	Prehistoric	Ambleston

PE134	Standing Stones near Upper Lodge	Standing stone	Prehistoric	The Havens
PE135	Long Stone Burial Chamber	Burial Chamber	Prehistoric	Milford
PE137	Whitewell	House (domestic)	Medieval	Penally
PE138	Castell Pant-y-Phillip	Enclosure	Prehistoric	Trecwn
PE139	Caer Penbicas	Enclosure	Prehistoric	Trecwn
PE140	Waun-Castell Camp	Promontory Fort - inland	Prehistoric	Trecwn
PE141	Castell Cwm-Wyntyll	Enclosure	Prehistoric	Trecwn
PE142	Sculptured Stone Cross in Church	Cross	Medieval	Penally
PE143	Inscribed Pillar Stone in Churchyard	Inscribed stone	Early Medieval	Cilgerran
PE144	Inscribed Stone in Churchyard	Inscribed stone	Early Medieval	Cilgerran
PE145	Inscribed Stone at Llangwarran Farm	Inscribed stone	Early Medieval	Scleddau
PE146	Inscribed Stones outside Ruined Church of St Teilo (now in Maenclochog Church).	Cross-marked stone	Early Medieval	Maenclochog
PE147	Inscribed Stone near Glan-Dwr Independent Chapel	Inscribed stone	Early Medieval	Crymych
PE148	St Canna's Chair	Inscribed stone	Early Medieval	Henllanfallteg
PE150	Two Pre-Norman Gravestones in Churchyard	Cross-marked stone	Early Medieval	Mathry
PE151	Inscribed Stone in Churchyard	Inscribed stone	Early Medieval	Nevern
PE152	Inscribed Stone in Churchyard	Inscribed stone	Early Medieval	Wolfscastle
PE153	Plumstone Mountain Round Barrows (West)	Round barrow	Prehistoric	Camrose
PE154	Redstone Cross Round Barrows	Round barrow	Prehistoric	Narberth
PE157	Kingston Burial	Chambered tomb	Prehistoric	Pembroke

	Chamber			
PE158	Woodland Round Barrow	Round barrow	Prehistoric	The Havens
PE159	White House Burial Chamber	Chambered tomb	Prehistoric	Llanrhian
PE160	Castell Nanhyfer	Motte & Bailey	Medieval	Nevern
PE161	Rock Hewn Cross 220m West of Church	Cross	Medieval	Nevern
PE162	Llawhaden Hospital	Hospital	Medieval	Llawhaden
PE163	Tenby Castle	Castle	Medieval	Tenby
PE164	High Cross in Churchyard	Cross	Early Medieval	Nevern
PE165	St Teilo's Church & Churchyard	Church	Medieval	Maenclochog
PE166	Castlemartin Castle	Enclosure	Prehistoric	Castlemartin
PE167	West Pickard Camp	Promontory Fort-coastal	Prehistoric	Angle
PE168	Pant-y-Groes Crugiau	Round barrow	Prehistoric	St Dogmaels
PE169	Castell Pen-yr-Allt	Castle	Medieval	Cilgerran
PE170	Castell Felin-Ganol	Promontory Fort - inland	Prehistoric	Cilgerran
PE171	Castell Eglwysrw	Motte & Bailey	Medieval	Eglwysrw
PE172	Castell Mawr	Hillfort	Prehistoric	Eglwysrw
PE173	Cwm-Pen-y-Benglog Camp	Promontory Fort - inland	Prehistoric	Eglwysrw
PE174	Castell Llwyd	Promontory Fort - inland	Prehistoric	Eglwysrw
PE175	Castell Henllys	Hillfort	Prehistoric	Nevern
PE176	Caerau Gaer	Rath	Prehistoric	Llanddewi Velfrey
PE177	Castell	Ringwork	Medieval	Lampeter Velfrey
PE178	New House Round Barrows	Round barrow	Prehistoric	Lampeter Velfrey
PE179	Longstone Camp	Enclosure	Prehistoric	Lampeter Velfrey
PE180	Hut Groups on Gateholm Island	Hut circle settlement	Roman	Marloes and St Brides
PE181	Hut Groups Cairns & Cliff Castle on Skomer Island	Limekiln	Post-Medieval/Modern	Marloes and St Brides

PE182	Bush Inn Camp	Promontory Fort - inland	Prehistoric	Llawhaden
PE183	Dingstopple Castle Mound	Motte	Medieval	Llawhaden
PE184	Gelly Earthwork	Rath	Prehistoric	Llawhaden
PE185	Castell-y-Fran	Motte	Medieval	New Moat
PE186	Priory Rath	Rath	Prehistoric	Milford
PE187	Thornton Rath	Promontory Fort - inland	Prehistoric	Tiers Cross
PE188	Roman Castle	Rath	Prehistoric	Walwyn's Castle
PE189	Rath S of St James Church	Rath	Prehistoric	Walwyn's Castle
PE190	Syke Rath	Promontory Fort - inland	Prehistoric	Walwyn's Castle
PE191	Woodland Rath	Rath	Prehistoric	The Havens
PE192	Richeston Rath	Rath	Prehistoric	Walwyn's Castle
PE193	Capeston Rath	Promontory Fort - inland	Prehistoric	Walwyn's Castle
PE194	Watery Bay Rath	Promontory Fort-coastal	Prehistoric	Marloes and St Brides
PE195	Great Castle Head Rath	Promontory Fort-coastal	Prehistoric	Dale
PE196	Castle Mound	Motte	Medieval	St Ishmael's
PE197	Crugiau Cemmaes Round Barrows	Round barrow	Prehistoric	Nevern
PE198	Pant-y-Groes Round Barrow	Round barrow	Prehistoric	Nevern
PE199	Standing Stone	Standing stone	Prehistoric	Dinas Cross
PE200	Ty-Meini Standing Stone	Standing stone	Prehistoric	Dinas Cross
PE201	Castell Pengegin	Promontory Fort - inland	Prehistoric	Cwm Gwaun
PE202	Tre-Fach Standing Stone	Standing stone	Prehistoric	Nevern
PE203	Maen Colman	Cross-marked stone	Early Medieval	Boncath
PE204	Freni-Fach Round Barrow	Round barrow	Prehistoric	Clydey
PE205	Castell Crychydd	Motte & Bailey	Medieval	Clydey
PE206	Crug Bach Round Barrow	Round barrow	Prehistoric	Clydey
PE207	Castell Blaidd Round Barrow	Round barrow	Prehistoric	Clydey
PE208	Castell	Motte	Medieval	Crymych



	Dyffrynmaur			
PE209	Castell Llain-Fawr	Motte	Medieval	Eglwysrw
PE210	Tal-y-Gaer Corbelled Hut	Corbelled hut	Early Medieval	Pencaer
PE211	Caerau	Enclosure	Prehistoric	Nevern
PE212	Pen-Castell Promontory Fort	Promontory Fort-coastal	Prehistoric	Nevern
PE213	Glan-Dwr-Isaf Camp	Enclosure	Prehistoric	Nevern
PE214	Castell Tre-Riffith	Promontory Fort-coastal	Prehistoric	Nevern
PE215	Denant Rath	Rath	Prehistoric	Tiers Cross
PE216	Keeston Castle	Hillfort	Prehistoric	Camrose
PE217	Camrose Mound & Bailey Castle	Motte & Bailey	Medieval	Camrose
PE218	Crowhill Rath	Promontory Fort - inland	Prehistoric	Camrose
PE219	Plumstone Rock Round Barrows	Round barrow	Prehistoric	Camrose
PE220	Plumstone Rath	Rath	Prehistoric	Camrose
PE221	Castle Mound	Motte	Medieval	Hayscastle
PE222	Castle Villa Camp	Enclosure	Prehistoric	Brawdy
PE223	Rosemarket Rath	Rath	Prehistoric	Rosemarket
PE224	Rosemarket Dovecot	Dovecote	Post-Medieval/Modern	Rosemarket
PE225	Castell Gwyn	Hillfort	Prehistoric	Llandissilio West
PE226	Two Pillar-Crosses in Churchyard	Cross	Early Medieval	Cwm Gwaun
PE227	Five Pillar-Crosses in Churchyard	Cross-marked stone	Early Medieval	Cwm Gwaun
PE228	Two Pillar-Crosses in Churchyard Llanllawer	Cross-marked stone	Early Medieval	Cwm Gwaun
PE229	Holy Well	Holy Well	Early Medieval	Cwm Gwaun
PE230	Pillar Cross in Churchyard	Cross	Early Medieval	Cwm Gwaun
PE231	Bucket Camp	Enclosure	Prehistoric	Trecwn
PE232	Castell Mael	Ringwork	Medieval	Puncheston
PE233	Rhyd-y-Gath Pillar Cross	Cross-marked stone	Early Medieval	Crymych
PE234	Tre-Bwlch Pillar	Cross-marked	Early Medieval	Eglwysrw

	Crosses	stone		
PE235	Two Early Christian Crosses in Morvil Churchyard	Cross	Early Medieval	Puncheston
PE236	Velindre Pillar-Cross	Cross-marked stone	Early Medieval	New Moat
PE237	Wern Camp	Promontory Fort - inland	Prehistoric	Puncheston
PE238	Castell Mound	Motte	Medieval	Puncheston
PE239	Castell y Fwch	Enclosure	Prehistoric	Puncheston
PE240	Castell Hendre	Motte	Medieval	Puncheston
PE241	New Moat Castle Mound	Motte & Bailey	Medieval	New Moat
PE242	Knock Rath	Rath	Prehistoric	Wiston
PE244	Scollock Rath	Rath	Prehistoric	Wiston
PE245	Kings Mill Camp	Promontory Fort - inland	Prehistoric	Castlemartin
PE246	Hodgeston Moated Site	Moated Site	Medieval	Lamphey
PE247	Great Treffgarne Wood Camp	Enclosure	Prehistoric	Wolfscastle
PE248	Great Treffgarne Rocks Camp	Hillfort	Prehistoric	Wolfscastle
PE249	Little Treffgarne Camp	Enclosure	Prehistoric	Wolfscastle
PE250	Little Treffgarne Wood Camp	Enclosure	Prehistoric	Wolfscastle
PE251	Hazel Grove Camp (North)	Enclosure	Prehistoric	Wolfscastle
PE252	Hazel Grove Camp (South)	Enclosure	Prehistoric	Wolfscastle
PE253	Sealyham Rocks Camp	Rath	Prehistoric	Wolfscastle
PE254	Wolfscastle Castle Mound	Motte & Bailey	Medieval	Wolfscastle
PE255	Sealyham Quarries Camp	Promontory Fort - inland	Prehistoric	Wolfscastle
PE256	Ford Camp	Enclosure	Prehistoric	Wolfscastle
PE257	West Ford Camp	Enclosure	Prehistoric	Wolfscastle
PE258	Incised Cross at Cemetery Cross Roads	Cross-marked stone	Early Medieval	Pencaer
PE259	Ffynnon-Druidion Standing Stone	Standing stone	Prehistoric	Pencaer

PE260	Bickny Round Barrow	Round barrow	Prehistoric	Llanrhian
PE261	Park Camp	Enclosure	Prehistoric	Carew
PE262	West Pennar Camp	Enclosure	Prehistoric	Hundleton
PE263	Eastington Manor House	Manor	Medieval	Hundleton
PE264	West Popton Camp	Promontory Fort-coastal	Prehistoric	Hundleton
PE265	Black Point Rath	Promontory Fort-coastal	Prehistoric	The Havens
PE266	Rhyndaston-Fawr Standing Stone	Standing stone	Prehistoric	Hayscastle
PE267	Lamborough Camp	Promontory Fort - inland	Prehistoric	Wiston
PE269	Rhyd-Brown Camp	Promontory Fort - inland	Prehistoric	New Moat
PE270	Newton North Church	Church	Post-Medieval/Modern	Martletwy
PE271	Slade Camp	Promontory Fort - inland	Prehistoric	Nolton and Roch
PE272	Pointz Castle Mound	Motte	Medieval	Brawdy
PE273	Porth-y-Rhaw Camp	Promontory Fort-coastal	Prehistoric	Solva
PE274	Molleston Camp	Enclosure	Prehistoric	Templeton
PE275	Slebech Old Church	Church	Medieval	Slebech
PE276	Mounds on the Island	Mound	Medieval	Slebech
PE277	Picton Castle Mound	Motte	Medieval	Slebech
PE278	Castle Lake Camp	Promontory Fort-coastal	Prehistoric	Slebech
PE279	Hanton Round Barrows	Round barrow	Prehistoric	Uzmaston and Boulston
PE280	Picton Point Camp	Promontory Fort-coastal	Prehistoric	Slebech
PE281	Tower Point Rath	Promontory Fort - inland	Prehistoric	Marloes and St Brides
PE282	Howney Stone Rath	Promontory Fort - inland	Prehistoric	The Havens
PE283	Mill Haven Rath	Promontory Fort - inland	Prehistoric	The Havens
PE284	Castell Vorlan	Promontory Fort - inland	Prehistoric	Maenclochog

PE285	Pencraig-Fawr Camp	Enclosure	Prehistoric	Mynachlog-Ddu
PE286	Cornel-Bach Standing Stones	Standing stone	Prehistoric	Maenclochog
PE287	Galchen-Fach Stone	Standing stone	Prehistoric	Maenclochog
PE288	Gate Standing Stone	Standing stone	Prehistoric	Mynachlog-Ddu
PE289	Castell Pen-Gawsai	Earthwork (unclassified)	Early Medieval	Mynachlog-Ddu
PE290	Round Barrow on E Slope of Freni Fawr	Round barrow	Prehistoric	Boncath
PE291	Round Barrows on Summit of Freni Fawr	Round barrow	Prehistoric	Boncath
PE292	Round Barrow on W Slope of Freni Fawr	Round barrow	Prehistoric	Boncath
PE293	Mynydd Cilciffeth Round Barrows	Round barrow	Prehistoric	Cwm Gwaun
PE294	Caerfai Camp	Promontory Fort-coastal	Prehistoric	St Davids and the Cathedral Close
PE295	Castell Heinif	Promontory Fort-coastal	Prehistoric	St Davids and the Cathedral Close
PE296	St Lawrence Camp	Promontory Fort - inland	Prehistoric	Hayscastle
PE297	Ty-Newydd-Grug Standing Stone	Standing stone	Prehistoric	Mathry
PE298	Foel Eryr Round Cairn	Round cairn	Prehistoric	Cwm Gwaun
PE299	Summertown Camp	Hillfort	Prehistoric	Puncheston
PE300	Foel Cwm-Cerwyn Round Cairns	Round cairn	Prehistoric	Maenclochog
PE301	Foel Feddau Round Cairn	Round cairn	Prehistoric	Eglwysrw
PE302	Sister's House	Building (Unclassified)	Medieval	Martletwy
PE303	Court Moated Site	Moated Site	Medieval	Eglwysrw
PE304	Pillar Cross in Newport Churchyard	Cross-marked stone	Early Medieval	Newport
PE305	Pillar Cross 140m SE of Newport	Cross-marked stone	Early Medieval	Newport

	Church			
PE306	Cwm Gloyn Camp	Promontory Fort - inland	Prehistoric	Nevern
PE307	South Hook Camp	Promontory Fort-coastal	Prehistoric	Herbrandston
PE308	Tre-Gynon Camp	Promontory Fort - inland	Prehistoric	Cwm Gwaun
PE309	Carn Ingli Common Hut Circles	Unenclosed hut circle	Prehistoric	Newport
PE310	Mynnydd Caregog Hut Circle	Unenclosed hut circle	Prehistoric	Newport
PE311	Carew Beacon Round Barrows	Round barrow	Prehistoric	Carew
PE312	Glyn Gath Round Barrow	Ring cairn	Prehistoric	Cwm Gwaun
PE313	Cup-Marked Stone 350m E of Tre-Fael	Cup-marked stone	Prehistoric	Nevern
PE314	Bulliber Camp (East)	Enclosure	Prehistoric	Castlemartin
PE315	Brownslade Round Barrow	Round barrow	Prehistoric	Castlemartin
PE316	Linney Head Camp	Promontory Fort-coastal	Prehistoric	Castlemartin
PE318	Flimston Bay Camp	Promontory Fort-coastal	Prehistoric	Castlemartin
PE319	Crocksydam Camp	Promontory Fort-coastal	Prehistoric	Castlemartin
PE320	Buckspool Down Camp	Promontory Fort-coastal	Prehistoric	Stackpole
PE321	St Govan's Chapel and Well	Chapel	Early Medieval	Stackpole
PE322	Dale Point Promontory Fort (Defences)	Promontory Fort-coastal	Prehistoric	Dale
PE323	Deer Park Promontory Fort	Promontory Fort-coastal	Prehistoric	Marloes and St Brides
PE324	Rhos Goch Round Barrow	Round barrow	Prehistoric	Boncath
PE325	Round Barrow 270m SW of Crymych Arms	Round barrow	Prehistoric	Crymych
PE326	Foxhill Round Barrow	Round barrow	Prehistoric	St Dogmaels

PE327	Llan-Marlais Round Barrow	Round barrow	Prehistoric	Lampeter Velfrey
PE328	Round Barrow N of Rosemary Lane	Round barrow	Prehistoric	Carew
PE329	Round Barrow S of Rosemary Lane	Round barrow	Prehistoric	Carew
PE330	Good Hook Round Barrow	Round barrow	Prehistoric	Uzmaston and Boulston
PE331	Uzmaston Round Barrow	Round barrow	Prehistoric	Uzmaston and Boulston
PE332	South West Dockyard Tower	Tower	Post-Medieval/Modern	Pembroke Dock
PE333	Chapel Bay Fort	Fort	Post-Medieval/Modern	Angle
PE334	Stack Rock Fort	Fort	Post-Medieval/Modern	Herbrandston
PE335	West Blockhouse Fort	Fort	Post-Medieval/Modern	Dale
PE336	Dale Point Fort (Unoccupied Parts)	Fort	Post-Medieval/Modern	Dale
PE337	South Hook Fort	Fort	Post-Medieval/Modern	Herbrandston
PE338	Fort Hubberston	Fort	Post-Medieval/Modern	Milford
PE339	Fort Scoveston	Fort	Post-Medieval/Modern	Llanstadwell
PE340	Fagwr-Fran Standing Stone	Standing stone	Prehistoric	Puncheston
PE341	Marsh Round Barrow	Round barrow	Prehistoric	Puncheston
PE342	Budloy Standing Stone	Standing stone	Prehistoric	Maenclochog
PE343	Cnwc Round Cairns	Round cairn	Prehistoric	Maenclochog
PE344	Rhiwiau Round Barrow	Round barrow	Prehistoric	Maenclochog
PE345	Sampson Cross Standing Stone	Standing stone	Prehistoric	Stackpole
PE346	Stackpole Farm Standing Stone	Standing stone	Prehistoric	Stackpole
PE347	Stackpole Earthwork	Enclosure	Prehistoric	Stackpole
PE348	Lamber Round Barrow	Round barrow	Prehistoric	The Havens
PE349	Cronllwyn	Enclosure	Prehistoric	Cwm Gwaun

	Earthwork			
PE350	Castell Cleddyf	Enclosure	Prehistoric	Pencaer
PE351	Llanfyrnach Standing Stones	Standing stone	Prehistoric	Crymych
PE352	Tafarn-y-Bwlch Standing Stones	Standing stone	Prehistoric	Eglwyswrw
PE353	Tre-Fach Camp	Promontory Fort - inland	Prehistoric	Nevern
PE355	Lower Broad Moor Standing Stone	Standing stone	Prehistoric	Wolfscastle
PE356	Leachpool Round Barrow	Round barrow	Prehistoric	Rudbaxton
PE358	Standing Stone NNW of Sandy Haven House	Standing stone	Prehistoric	St Ishmael's
PE360	Huts on Mynydd Melyn	Unenclosed hut circle	Prehistoric	Cwm Gwaun
PE361	Bedd Morris Standing Stone	Standing stone	Prehistoric	Cwm Gwaun
PE362	Harold Stone	Standing stone	Prehistoric	The Havens
PE363	Brandy Brook Camp	Enclosure	Prehistoric	Brawdy
PE364	Crug Swllt Round Barrow	Round barrow	Prehistoric	Lampeter Velfrey
PE365	Stackpole Warren Standing Stone	Standing stone	Prehistoric	Stackpole
PE366	Haverfordwest Castle	Castle	Medieval	Haverfordwest
PE367	Stackpole Warren Hut Group	Unenclosed hut circle	Prehistoric	Stackpole
PE368	Foel Eryr Hut Group	Enclosed hut circle	Prehistoric	Eglwyswrw
PE369	Waun Clyn-Coch Hut Group	Enclosure	Prehistoric	Mynachlog-Ddu
PE370	Banc Llwydlos Hut Group	Enclosed hut circle	Prehistoric	Eglwyswrw
PE371	Parc-Lan Standing Stones	Standing stone	Prehistoric	Eglwyswrw
PE372	Penparke Standing Stone	Standing stone	Prehistoric	Eglwyswrw
PE373	Carswell Old House	House (domestic)	Medieval	Penally
PE375	Carn Alw Hillfort	Hillfort	Prehistoric	Eglwyswrw
PE376	Aberfelin Mill	Mill	Post- Medieval/Modern	Llanrhian



PE378	Lime Kilns	Kiln	Post-Medieval/Modern	Solva
PE379	Defensible Barracks Pembroke Dock	Barracks	Post-Medieval/Modern	Pembroke Dock
PE380	Paterchurch Tower Pembroke Dock	Tower	Medieval	Pembroke Dock
PE382	Porthgain Quarry and Harbour	Industrial building	Post-Medieval/Modern	Llanrhian
PE383	Castle Malgwyn Bridge	Bridge	Post-Medieval/Modern	Manordeifi
PE384	Cilgerran Castle Additional Area	Castle	Medieval	Cilgerran
PE386	Penrallt yr Esgob Cairn	Round cairn	Prehistoric	Nevern
PE387	Hakin Observatory	Observatory	Post-Medieval/Modern	Milford
PE389	Pengawse Medieval House Site	Manor	Medieval	Llanddewi Velfrey
PE390	Pengawse Ring Cairn	Ring barrow	Prehistoric	Llanddewi Velfrey
PE391	Castell Coch Promontory Fort (by Ynys Gwair)	Promontory Fort-coastal	Prehistoric	St Davids and the Cathedral Close
PE392	Caerau Promontory Forts	Promontory Fort-coastal	Prehistoric	St Davids and the Cathedral Close
PE393	Castell Coch Promontory Fort (on Penmorfa)	Promontory Fort-coastal	Prehistoric	Mathry
PE394	Narberth Mountain Enclosure	Enclosure	Prehistoric	Templeton
PE395	Remains of Medieval Farmhouse with Round Chimney at Croftufty	Farmstead	Medieval	Solva
PE396	Cresswell Castle 100m W of Cresswell Quay	House (domestic)	Medieval	Martletwy
PE397	Hill Slope Enclosure 400m WNW of Parc Robert	Enclosure	Prehistoric	New Moat

PE398	Remains of East Blockhouse N of Rat Island	Blockhouse	Medieval	Angle
PE399	Huts Enclosures & Field Systems Bernards Well Mountain	Hut circle settlement	Prehistoric	Puncheston
PE400	Enclosure & Earthworks at Lewiston Hall	Enclosure	Prehistoric	Hundleton
PE401	Medieval Building at Kingston Farm	Building (Unclassified)	Medieval	Pembroke
PE402	Deserted Medieval Site at New Inn	Deserted Rural Settlement	Medieval	Puncheston
PE403	The Old Palace Lydstep	Palace	Medieval	Manorbier
PE404	The Old Castle	Ringwork	Medieval	Newport
PE405	Old Castle Head Promontory Fort	Promontory Fort-coastal	Prehistoric	Manorbier
PE406	Standing Stone 110m NW of Spring Gardens	Standing stone	Prehistoric	Mynachlog-Ddu
PE407	Iron Age Enclosure in Kilkiffeth Wood	Enclosure	Prehistoric	Cwm Gwaun
PE408	Promontory Fort on Little Castle Head	Promontory Fort-coastal	Prehistoric	St Ishmael's
PE409	Standing Stone S of Prysg Farm	Standing stone	Prehistoric	Maenclochog
PE410	Promontory Fort S of Solva Harbour	Promontory Fort-coastal	Prehistoric	Solva
PE411	Promontory Fort at Sheep Island	Promontory Fort-coastal	Prehistoric	Angle
PE412	Clyn Pattel Motte & Bailey	Motte	Medieval	Narberth
PE413	Iron Age Hillslope Enclosure in Canaston Wood	Enclosure	Prehistoric	Llawhaden
PE414	Standing Stone NW of Trecenny Farm	Standing stone	Prehistoric	St Davids and the Cathedral Close

PE415	Monkton Priory Dovecot	Dovecote	Medieval	Pembroke
PE416	Promontory Fort on Great Castle Head	Promontory Fort-coastal	Prehistoric	St Ishmael's
PE417	Iron Age/Romano-British Settlement & Field Systems on Fagwr-Fran Moor	Hut circle settlement	Prehistoric	Puncheston
PE418	Stepaside/Kilgetty Ironworks	Limekiln	Post-Medieval/Modern	Kilgetty/Begelly
PE419	Caer Bayvil	Enclosure	Prehistoric	Nevern
PE420	Tenby Market Cross	Market cross	Medieval	Tenby
PE421	Lower Tregennis Burial Chamber	Chambered tomb	Prehistoric	St Davids and the Cathedral Close
PE422	Brawdy Promontory Fort	Promontory Fort - inland	Prehistoric	Brawdy
PE423	West Tarr Vaulted Hall House	House (domestic)	Medieval	Penally
PE424	Potter`s Cave	Cave	Prehistoric	Caldey Island
PE425	Nanna's Cave	Cave	Prehistoric	Caldey Island
PE426	Daylight Rock Mesolithic Site	Cave	Prehistoric	Caldey Island
PE427	Hoyle Mouth Cave	Cave	Prehistoric	Penally
PE428	Little Hoyle Cave and Longbury Bank Dark Age Site	Cave	Prehistoric	Penally
PE429	Cottage Mill and Lime Kiln at Caerbwdy	Mill	Post-Medieval/Modern	St Davids and the Cathedral Close
PE430	Higgons Well	Holy Well	Medieval	Uzmaston and Boulston
PE431	Martin`s Haven Early Christian Inscribed Cross	Cross-marked stone	Early Medieval	Marloes and St Brides
PE432	Rudbaxton Motte	Motte	Medieval	Rudbaxton
PE433	Minwear Ringwork	Ringwork	Medieval	Martletwy
PE434	Llangwathan Castle Mound	Motte	Medieval	Lampeter Velfrey
PE435	Priory Farm Cave	Cave	Prehistoric	Pembroke

PE436	Black Rock Quarry Lime Kilns	Kiln	Post-Medieval/Modern	Penally
PE437	Medieval Pottery Kiln Newport Memorial Hall	Pottery kiln	Medieval	Newport
PE438	Haroldston House and Gardens	House (domestic)	Post-Medieval/Modern	Merlin's Bridge
PE439	The Watchtower	Beacon	Medieval	Penally
PE440	St Davids Cathedral Close: Chanter's Orchard	House (domestic)	Medieval	St Davids and the Cathedral Close
PE441	St Davids Cathedral Close: Vicar's College	Religious house	Medieval	St Davids and the Cathedral Close
PE442	St Davids Cathedral Close: The Free School	School	Medieval	St Davids and the Cathedral Close
PE443	St Davids Cathedral Close: Archdeacon of Cardigans Ground	House (domestic)	Medieval	St Davids and the Cathedral Close
PE444	St Davids Cathedral Close: St Mary's College Cloister	Religious house	Medieval	St Davids and the Cathedral Close
PE445	St Davids Cathedral Close: Cloister Hall (Undercroft only)	Undercroft	Medieval	St Davids and the Cathedral Close
PE446	Fort Popton (Curtain Walls and Gun Emplacements only)	Fort	Post-Medieval/Modern	Angle
PE447	Flimston Farmhouse	Farmstead	Medieval	Castlemartin
PE448	Pillar Stone in Penparke	Cross	Early Medieval	Eglwysrw
PE449	Moated Site 100m East of Caeforiog Bridge	Moated Site	Post-Medieval/Modern	Llanrhian
PE450	Fort St Catherine	Fort	Post-Medieval/Modern	Tenby
PE451	Pricaston Farmhouse	Farmstead	Medieval	Castlemartin

PE452	American War of Independence Redan at Bath House	Battery	Post-Medieval/Modern	Neyland
PE453	Round Barrow 110m S W of the Hoyles	Round barrow	Prehistoric	Carew
PE454	Landshipping House Garden Remains	Garden	Post-Medieval/Modern	Martletwy
PE455	Garden Earthworks at Coedcanlas Farm	Garden	Post-Medieval/Modern	Martletwy
PE456	Little Haven Enclosed Settlement	Unenclosed hut circle settlemen	Prehistoric	The Havens
PE457	St Davids Cathedral Mill Leat	Leat	Medieval	St Davids and the Cathedral Close
PE458	Rhode Wood Shaft Mounds	Shaft Mounds	Post-Medieval/Modern	St Mary Out Liberty
PE459	Manorbier Dovecot	Dovecote	Medieval	Manorbier
PE460	Walton Mill Rath	Enclosure	Prehistoric	Wiston
PE461	House Platforms N of St. Mary's Churchyard	House platform	Medieval	Wiston
PE462	Pit Circle 250m NE of Cottesmore Farm	Pit circle	Prehistoric	Rudbaxton
PE463	Underhill Wood Primitive Coal Workings	Coal Mine	Post-Medieval/Modern	Jeffreyston
PE464	Bedd Arthur	Enclosure	Unknown	Eglwysrw
PE465	Moat NW of Merryborough Farm	Moated Site	Medieval	Wiston
PE466	Corn Drying Kiln 130m E of Mirianog-Ganol	Corn-drying kiln	Post-Medieval/Modern	Eglwysrw
PE467	Crow Back Tumulus	Round barrow	Prehistoric	Castlemartin
PE468	Linney Head Tumulus	Round barrow	Prehistoric	Castlemartin
PE469	Linney Deserted Medieval Village	Deserted Medieval Village	Medieval	Castlemartin

PE470	Bier Hill Round Barrows	Round barrow	Prehistoric	Manorbier
PE471	Garn Fechan Camp	Hillfort	Prehistoric	Pencaer
PE472	Roman Road 300m East of Bryn Farm	Road	Roman	Llanddewi Velfrey
PE473	Burnt Mound 240m NE of Highway Park	Burnt mound	Prehistoric	Tiers Cross
PE474	Burnt Mound 320m S of Winsle Leys	Burnt mound	Prehistoric	St Ishmael's
PE475	Burnt Mound 160m E of Woodsend	Burnt mound	Prehistoric	Walwyn's Castle
PE476	Burnt Mound 170m S of Jubilee Cottages	Burnt mound	Prehistoric	Tiers Cross
PE477	Burnt Mound 120m SSE of Cippin Fach	Burnt mound	Prehistoric	St Dogmaels
PE478	Burnt Mound 160m SW of Wern-Ddu	Burnt mound	Prehistoric	St Dogmaels
PE479	Tramroad Incline at Saundersfoot	Incline Drumhouse	Post-Medieval/Modern	Saundersfoot
PE480	Enclosure 200m SE of Solva Village	Enclosure	Prehistoric	Solva
PE481	Enclosure in Tycanol Wood	Promontory Fort-coastal	Prehistoric	Nevern
PE482	Whitewell	Hospital	Medieval	St Davids and the Cathedral Close
PE483	First World War Practice Trenches Penally Range	Practice trenches	Post-Medieval/Modern	Penally
PE484	Blackpool Iron Furnace	Ironworks	Post-Medieval/Modern	Martletwy
PE485	Inscribed Stone 130m E of Penwaun	Cross	Early Medieval	Dinas Cross
PE486	Enclosure Site on Allt Pen-Gegin-Isaf	Enclosure	Prehistoric	Cwm Gwaun
PE487	Enclosure Site	Enclosure	Prehistoric	Cwm Gwaun

	80m N of Ty Mawr			
PE488	Burnt Mound North of Dinaston Farm	Burnt mound	Prehistoric	Jeffreyston
PE489	Grove Colliery	Engine house	Post-Medieval/Modern	Kilgetty/Begelly
PE490	Tafarn-y-bwlch Deserted Rural Settlement	Rectangular hut	Post-Medieval/Modern	Eglwysrw
PE493	Radar Station Old Castle Head	Radar Station	Post-Medieval/Modern	Manorbier
PE494	Gravel Bay anti-aircraft battery	Battery	Post-Medieval/Modern	Angle
PE495	Carn Llwyd ring cairn	Ring cairn	Prehistoric	Newport
PE496	Cerrig Lladron stone row	Stone Row	Prehistoric	Cwm Gwaun
PE497	Rhos Fach standing stone pair	Stone Row	Prehistoric	Mynachlog-Ddu
PE499	Carn Ferched platform cairn	Platform Cairn	Prehistoric	Crymych
PE500	Mynydd Crwn standing stone	Standing stone	Prehistoric	Maenclochog
PE501	Trefaes Ganol Standing Stone 250m N of	Standing stone	Prehistoric	Nevern
PE502	Gellifawr Standing Stone 70m SW of	Standing stone	Prehistoric	Cwm Gwaun
PE503	Hendre Standing Stone 450m NNW of	Standing stone	Prehistoric	Newport
PE504	Pentre Ifan Standing Stone 120m SSW of	Standing stone	Prehistoric	Nevern
PE505	Trellwyn Fawr Standing Stone 60m WSW of	Standing stone	Prehistoric	Cwm Gwaun
PE506	Trellwyn Fach Standing Stone 100m NW of	Standing stone	Prehistoric	Cwm Gwaun
PE507	Standing Stone 100m ENE of Blaen-llyn	Standing stone	Prehistoric	Hayscastle



PE508	Standing Stone 270m NW of Trehale House	Standing stone	Prehistoric	Hayscastle
PE509	Standing Stone 200m ENE of Trehale House	Standing stone	Prehistoric	Hayscastle
PE510	Standing Stone 400m NE of Pen- lan-Mabws	Standing stone	Prehistoric	Mathry
PE511	Standing Stone 350m N of Knightston Farm	Standing stone	Prehistoric	St Mary Out Liberty
PE512	Standing Stone 450m SSE of Lower Broadmoor Farm	Standing stone	Prehistoric	Wolfscastle
PE513	Carreg Quoitan Standing Stone	Standing stone	Prehistoric	Puncheston
PE514	Parc Maen Llwyd Standing Stone	Standing stone	Prehistoric	Puncheston
PE515	Parc Castell Round Barrow	Round barrow	Prehistoric	Puncheston
PE516	Mynydd Castlebythe Round Barrows	Round barrow	Prehistoric	Puncheston
PE517	Mynydd Castlebythe Ring Barrow	Ring barrow	Prehistoric	Puncheston
PE518	Parc Hen Standing Stone	Standing stone	Prehistoric	Pencaer
PE519	Plumstone Mountain Round Barrow (East)	Round barrow	Prehistoric	Camrose
PE520	Round Barrow 370m NW of Mockwell	Round barrow	Prehistoric	Hayscastle
PE521	Standing Stone 300m WNW of Cilmoor	Standing stone	Prehistoric	Maenclochog
PE522	Temple Druid Standing Stone	Standing stone	Prehistoric	Maenclochog
PE523	Standing Stone 600m E of Dolau- Newydd	Standing stone	Prehistoric	Mynachlog-Ddu
PE524	Round Barrow 100m E of	Round barrow	Prehistoric	Camrose

	Thornbush			
PE525	Round Barrow 400m N of West Orierton	Round barrow	Prehistoric	Hundleton
PE526	Round Barrow 300m NW of Tallyho	Round barrow	Prehistoric	Llangwm and Hook
PE527	Colby Moor Round Barrow	Round barrow	Prehistoric	Wiston
PE528	Corner Piece Round Barrow	Round barrow	Prehistoric	Wiston
PE529	Hook Quay	Quay	Post- Medieval/Modern	Llangwm and Hook
PE498	Carn Menyn Chambered Cairn	Chambered Cairn	Prehistoric	Mynachlog-Ddu

## APPENDIX 11: Carmarthenshire Local Biodiversity Action Plan - Species

<b>Mammals</b>
Water vole
Dormouse
Red squirrel
Greater Horseshoe Bat
Pipistrelle Bat + other bat species
Lesser Horseshoe Bat
Brown Hare
Otter
Harbour porpoise
<b>Birds</b>
Red kite
Common scoter
Lapwing
Skylark
Barn Owl
Tree Sparrow
Nightjar
<i>Golden Plover</i>
<i>Curlew</i>
<i>Yellowhammer</i>
<i>Little Ringed Plover</i>
<b>Fish</b>
Alis shad
Twaite shad
<b>Inverts</b>
Marsh fritillary
Hornet robber fly
Bog ant
Fresh water pearl mussel
Medicinal Leech
Brown Hairstreak
<b>Plants + fungi</b>
Fen orchid
Dune Gentian
Pennyroyal
Deptford Pink
Small Flowered Catchfly
Rock Sea Lavender
Black Poplar

*Waxcaps*

## APPENDIX 12: Carmarthenshire Protected Sites & their Area

SITE NAME	DESIGNATION	AREA (HA)
Allt Rhyd y Groes	National Nature Reserve	70
Carmel	National Nature Reserve	85
Cors Goch, Llanllwch	National Nature Reserve	18
Brecon Beacons National Park	National Park	134954
Burry Inlet	Ramsar Site	6672
Bae Caerfyrddin / Carmarthen Bay	Special Protection Area	33411
Burry Inlet	Special Protection Area	6672
Elenydd - Mallaen	Special Protection Area	30014
River Teifi	Special Area of Conservation	716
River Tywi	Special Area of Conservation	363
Cleddau Rivers	Special Area of Conservation	751
Caeau Mynydd Mawr	Special Area of Conservation	25
Carmarthen Bay and Estuaries	Special Area of Conservation	66101
Carmarthen Bay Dunes	Special Area of Conservation	1206
Cernydd Carmel	Special Area of Conservation	361
Cwm Doethie - Mynydd Malleau	Special Area of Conservation	4122
River Usk	Special Area of Conservation	1008
Taf Estuary	Site of Special Scientific Interest	1500
Eastern Cleddau River	Site of Special Scientific Interest	354
River Tyfi	Site of Special Scientific Interest	780
River Tywi	Site of Special Scientific Interest	1298
Allt Pen y Coed Stream Section	Site of Special Scientific Interest	2
Allt y Gaer	Site of Special Scientific Interest	3
Allt y Wern	Site of Special Scientific Interest	6
Pembrey Coast	Site of Special Scientific Interest	4134
Beacon Bog	Site of Special Scientific Interest	12
Birdshill Quarry	Site of Special Scientific Interest	0
Bishops Pond	Site of Special Scientific Interest	6
Broad Oak and Thornhill Meadows	Site of Special Scientific Interest	6
Burry Inlet and Loughor Estuary	Site of Special Scientific Interest	5851
Cae Blaen-Dyffryn	Site of Special Scientific Interest	4
Cae Cilmaenllwyd	Site of Special Scientific Interest	2
Cae Cwm- Tywyll	Site of Special Scientific Interest	2
Cae Gwynfryn	Site of Special Scientific Interest	1
Cae Maes y Ffynnon	Site of Special Scientific Interest	2
Caeau Afon Gwili	Site of Special Scientific Interest	18
Caeau Blaen Bydernyn	Site of Special Scientific Interest	10
Caeau Blaen yr Orfa	Site of Special Scientific Interest	3
Caeau Blaenau Mawr	Site of Special Scientific Interest	10
Caeau Capel Hendre	Site of Special Scientific Interest	2

Caeau Ffos Fach	Site of Special Scientific Interest	13
Caeau Lotwen	Site of Special Scientific Interest	9
Caeau Nant Garenig	Site of Special Scientific Interest	12
Caeau Nantsais	Site of Special Scientific Interest	1
Caeau Pant y Bryn	Site of Special Scientific Interest	9
Caeau Rhyd y Gwiall	Site of Special Scientific Interest	7
Caeau Tir Mawr	Site of Special Scientific Interest	13
Carreg Cennan	Site of Special Scientific Interest	20
Cefn Blaenau	Site of Special Scientific Interest	23
Cernydd Carmel	Site of Special Scientific Interest	361
Talar Wen Quarry	Site of Special Scientific Interest	0
Coed Cochion Quarry	Site of Special Scientific Interest	0
Coed Gwempa	Site of Special Scientific Interest	18
Coed Llandyfan	Site of Special Scientific Interest	6
Coedydd Capel Dyddgen	Site of Special Scientific Interest	25
Tregyb Woodlands	Site of Special Scientific Interest	27
Coedydd y Garn	Site of Special Scientific Interest	23
Cors Farlais	Site of Special Scientific Interest	30
Cors Goch, Llanllwch	Site of Special Scientific Interest	40
Corsydd a Rwyth Cilyblaid	Site of Special Scientific Interest	4
Craig Ddu – Wharley Point Cliffs	Site of Special Scientific Interest	45
Creigiau Aberarth-Morfa	Site of Special Scientific Interest	20
Creigiau Cwm-Cerw a Ffos-Las (Morfa Bychan)	Site of Special Scientific Interest	32
Creigiau Llansteffan (Llanstephan Cliffs)	Site of Special Scientific Interest	3
Crug Farm Quarry	Site of Special Scientific Interest	1
Crychan Forest Tracks	Site of Special Scientific Interest	6
Cwar Glas Quarry & Sawdde Gorge	Site of Special Scientific Interest	6
Cwm Clydach. Cydweli	Site of Special Scientific Interest	8
Cwm Crymlyn Road Section	Site of Special Scientific Interest	0
Cwm Doethie-Mynydd Mallaen	Site of Special Scientific Interest	6154
Cwm Twrch	Site of Special Scientific Interest	2
Cwm yr Abbey Stream Section	Site of Special Scientific Interest	2
Dan-Lan-y-Castell Quarry	Site of Special Scientific Interest	0
Derwen Fach Meadow	Site of Special Scientific Interest	3
Dinefwr Estate	Site of Special Scientific Interest	224
Dolaucothi Gold Mines	Site of Special Scientific Interest	19
Felin Fach Meadows, Cwmgwili	Site of Special Scientific Interest	9
Ffair Fach Railway Cutting & River Section	Site of Special Scientific Interest	3
Glan Pibwr Stream Section	Site of Special Scientific Interest	1
Gwernydd Pembre	Site of Special Scientific Interest	49
Gweunydd a Choed Pen-Ty (Pen-Ty Pastures & Wood)	Site of Special Scientific Interest	9

Gweunydd Glan-y-Glasnant	Site of Special Scientific Interest	12
Hafod Wennol Grasslands	Site of Special Scientific Interest	18
Llanfallteg Track Section	Site of Special Scientific Interest	0
Llety-Wen	Site of Special Scientific Interest	22
Llyn Llech Owain	Site of Special Scientific Interest	10
Llyn Pencarreg	Site of Special Scientific Interest	9
Llynoedd Tal-y-Llechau (Talley Lakes)	Site of Special Scientific Interest	47
Maes y Prior	Site of Special Scientific Interest	44
Mandinam a Coed Deri	Site of Special Scientific Interest	11
Meidrim Road Section	Site of Special Scientific Interest	5
Mylett Road Section	Site of Special Scientific Interest	0
Mynydd Du (Black Mountain)	Site of Special Scientific Interest	6741
Mynydd Llangyndeyrn	Site of Special Scientific Interest	85
Mynydd Ystyfflau-Carn	Site of Special Scientific Interest	54
Pine Lodge Meadow	Site of Special Scientific Interest	1
Pont y Fenni Quarry & Road Cutting	Site of Special Scientific Interest	0
Pwll Lagoon	Site of Special Scientific Interest	5
Rhos Cruglas	Site of Special Scientific Interest	5
Rhos Dolau-Bran	Site of Special Scientific Interest	5
Rhos Pwllgyawnen	Site of Special Scientific Interest	31
Rhosydd Castell-Du & Plas-y-Bettws	Site of Special Scientific Interest	18
River Usk (Upper Usk)	Site of Special Scientific Interest	308
River Wye (Upper Wye)	Site of Special Scientific Interest	544
Smarts Quarry	Site of Special Scientific Interest	2
Waun-Ddu	Site of Special Scientific Interest	35
Waun Fawr	Site of Special Scientific Interest	6
Wernbongam Stream Section & Quarry	Site of Special Scientific Interest	0
Whitehill Down	Site of Special Scientific Interest	46
Ydw Valley & Fron Road Geological Exposures	Site of Special Scientific Interest	7
Ynys Uchaf	Site of Special Scientific Interest	16
Arfordir Marros Pentywyn/ Marros Pendine Coast	Site of Special Scientific Interest	249
Saundersfoot Telpyn Coast	Site of Special Scientific Interest	152
Laughanre Pendine Burrows	Site of Special Scientific Interest	2300
Allt Cross-Inn Fach	Wildlife Trust Reserve	5
Castle Woods	Wildlife Trust Reserve	19
Coed Wern ddu	Wildlife Trust Reserve	1
Cors Goch	Wildlife Trust Reserve	19
Cors Pum Heol	Wildlife Trust Reserve	6
Ffrwd Farm Mire	Wildlife Trust Reserve	20



Nant Melin	Wildlife Trust Reserve	2
Poor Man's Wood	Wildlife Trust Reserve	17
Rhos Cefn Bryn	Wildlife Trust Reserve	7
Talley Lakes	Wildlife Trust Reserve	47
Y Goyallt	Wildlife Trust Reserve	5
Carreg Cennen Woodlands	Local Nature Reserve	16
Pembrey Burrows & Saltings	Local Nature Reserve	278
Llanelli SINC	Site of Interest for Nature Conservation	3
Llanelli SINC	Site of Interest for Nature Conservation	2
Llanelli SINC	Site of Interest for Nature Conservation	8
Llanelli SINC	Site of Interest for Nature Conservation	7
Llanelli SINC	Site of Interest for Nature Conservation	3
Llanelli SINC	Site of Interest for Nature Conservation	927
Llanelli SINC	Site of Interest for Nature Conservation	4
Llanelli SINC	Site of Interest for Nature Conservation	197
Llanelli SINC	Site of Interest for Nature Conservation	34

## APPENDIX 13: The provision of Historic Environment Record (HER) data in Carmarthenshire to inform the Natural Capital Audit

*This section of the report is contributed by Marion Page, of Cambria Archaeology. All photographs and text are the copyright of Cambria Archaeology. This part of the overall report, and the digital HER data that has been supplied with it, must only be used for the purpose of the Natural Capital Audit.*

### The dataset

The Historic Environment Record is compiled from diverse sources on an ongoing basis. Although every attempt is made to ensure the accuracy of the HER, Cambria Archaeology cannot provide any guarantee as to the accuracy of any information contained within it. Information provided is therefore not a definitive source but reflects the state of the Record on the date that it was last updated.

In order to inform the audit, two shape files of HER data have been supplied along with this report. The first dataset (Carms point) is the same as that which was supplied to the Welsh Assembly Government to inform the entry level agri-environment scheme (Tir Cynnal) and the Single Farm Payments. The information consists of core data about each site, e.g. its name, type of site, the period it dates from, any statutory status, its unique identifier (PRN) and locational information. The datasets do not include records of archaeological fieldwork that have been undertaken in the area, nor of records that were created based on place-name evidence. They do, however, include records based upon information gained from documentary sources such as historic maps and aerial photographs. Selecting the data in this way is a means of ensuring that all visible and important monuments are included and is a manageable way of keeping it up to date as new information becomes available.

Due to the ad hoc way in which the data has been gathered the quality of information about each site varies and there are areas where the Record needs improving. Grid references for instance, especially in earlier records, may not be as accurate as those for records created since the advent of digital mapping and GPS. In many cases this means that the point on the digital map does not accurately reflect the real location of an archaeological site. To give an indication of grid reference accuracy the points in GIS have been colour-coded as follows: -

- ☐ = A four figure grid reference e.g. SN7613. Accurate to within 1000m. **521 records**
- ☐ = A six figure grid reference e.g. SN527945. Accurate to within 100m. **2056 records**
- ☐ = An eight figure grid reference e.g. SN25749538. Accurate to within 10m. **11206 records**

□ = A ten figure grid reference e.g. SN4845638342. Accurate to within 1m. **431 records**

The second dataset (Condition point) consists of the same core data, but instead of colour coding to indicate NGR accuracy the points are coded according to the recorded condition of each site and the existence, or not, of a written description for it.

- = Condition A (Intact) or B (Substantially intact), with a description.
- = Condition A or B, without a description
- = Condition C (Damaged) or D (Substantial destruction), with a description
- = Condition C or D, without a description
- = Condition unknown/monument restored/converted/moved or no condition information recorded, but with a description
- = Condition unknown/monument restored/converted/moved, or no condition information recorded, and with no description

No geographical information on the extent of identified features is available.

## Information management

The Regional Historic Environment Record is a dynamic resource. New sites are continuously being recorded with the effect that any dataset supplied to an external organisation quickly becomes out of date. The design of any project arising from the Natural Capital Audit will need to include a mechanism for the provision of updated information, and this will have to be developed in conjunction with HER staff.

## Interpretation of the dataset

The HER is an index to information about a huge variety of archaeological remains from many different periods of time and as such is a technical tool requiring interpretation. Where only a little information is recorded for a site, for instance a record of a burnt mound that does not have a description, interpretation of the information requires a basic level of archaeological understanding. When data is passed on to third parties it is important that information on a wide range of issues relating to the interpretation and management of the sites is available to enable them to understand the resource.

At present there is no funding available for targeted enhancement of the Record such as writing descriptions for sites that don't yet have them, or rectifying incorrect grid references and other inaccuracies. And while Cambria Archaeology provides an enquiries service free of charge for the public, staffing and other resource levels mean that we may not be able to cope with a large number of enquiries within a reasonable timescale. At present we do not have the resources to provide interpretation and management advice for such a potentially large number of sites, particularly when it is often necessary to visit a site before this kind of information can be given. We are therefore concerned that there is currently no proposal included in the project design to develop a structure to enable us to deliver further information and advice to the level that it may be required.

We therefore suggest that a guidance booklet, giving basic information and generic management advice, be commissioned to go with the maps that will be provided to farmers. Examples of information booklets can be seen on the English Heritage Historic Environment Local Management website – [www.helm.org.uk](http://www.helm.org.uk)

## APPENDIX 14: Scheduled Ancient Monuments: Carmarthenshire

SAM Number	SAM Name	Site type	Period	Community
CM001	Carreg Cennen Castle	Castle	Medieval	Dyffryn Cennen
CM002	Kidwelly Castle	Castle	Medieval	Kidwelly
CM003	Laugharne Castle	Castle	Medieval	Laugharne Township
CM004	Llansteffan Castle	Castle	Medieval	Llansteffan
CM005	Dolau-Hirion Bridge	Bridge	Post-Medieval/Modern	Cilycwm
CM006	Spudder's Bridge	Bridge	Medieval	Trimsaran
CM008	Carmarthen Castle	Castle	Medieval	Carmarthen
CM009	The Bulwarks (Civil War)	Earthwork (unclassified)	Post-Medieval/Modern	Carmarthen
CM010	Llwyn Du Camp	Hillfort	Prehistoric	Llangadog
CM011	Garn-Fawr Castle Mound	Motte	Medieval	Newchurch and Merthyr
CM012	Waun Pwtlyn Long Barrow	Long barrow	Prehistoric	Llangadog
CM013	Talley Abbey	Abbey	Medieval	Talley
CM014	Whitland Abbey	Abbey	Medieval	Llanboidy
CM015	Llandovery Castle	Castle	Medieval	Llandovery
CM017	Cenarth Bridge	Bridge	Post-Medieval/Modern	Cenarth
CM019	Napps Camp	Promontory Fort- coastal	Prehistoric	Pendine
CM020	Domen Seba (or Y Tomen Fawr) Castle Mound	Motte	Medieval	Llangeler
CM021	Castle Llwyn Bedw	Motte	Medieval	Llanfihangel-ar-Arth
CM022	Domen Llawddog (Or Tomen	Motte & Bailey	Medieval	Llangeler

	Maesllan) Mound & Bailey Castle			
CM023	Craig- Gwrtheyrn	Hillfort	Prehistoric	Llanfihangel-ar- Arth
CM024	Castell-y-Gaer	Enclosure	Prehistoric	Newchurch and Merthyr
CM028	Hirfaen Standing Stone	Standing stone	Prehistoric	Llanycrwys
CM029	Old Dynefwr Castle	Castle	Medieval	Llandeilo
CM030	Dryslwyn Castle	Hillfort	Prehistoric	Llangathen
CM031	Dol-Wilym Burial Chamber	Chambered tomb	Post- Medieval/Modern	Llanboidy
CM033	Crugiau Rhos- Wen	Round barrow	Prehistoric	Llanfihangel- ar-Arth
CM034	Crugyn Amlwg Mynydd Trebeddau	Round barrow	Prehistoric	Llanfihangel- ar-Arth
CM035	Crug y Bedw S of Blaen-Rhyd- Fedw	Round barrow	Prehistoric	Llanfihangel- ar-Arth
CM036	Crug 460m WSW of Brynamlwg Pencader	Ring cairn	Prehistoric	Llanfihangel- ar-Arth
CM037	Garn Goch Camps	Hillfort	Prehistoric	Llangadog
CM038	Garn-Fawr Tumuli & Enclosure	Round barrow	Prehistoric	Newchurch and Merthyr
CM039	Top Castle	Ringwork	Prehistoric	Eglwyscumin
CM041	Mynydd Myddfai Standing Stones	Standing stone	Prehistoric	Myddfai
CM042	Ffynnon- Newydd Standing Stones	Henge	Prehistoric	Llanegwad
CM043	Llech Ciste Standing Stone	Standing stone	Prehistoric	Llanegwad
CM044	Carreg Castell- y-Gwynt Burial Chamber	Round cairn	Prehistoric	Llanfynydd

CM046	Coetan Samson Burial Chamber	Chambered tomb	Prehistoric	Llangeler
CM047	Cerrig Llwydion Burial Chamber	Chambered tomb	Prehistoric	Cynwyl Elfed
CM048	Burial Chamber near Cross Hands	Chambered tomb	Prehistoric	Llanboidy
CM049	Carn Besi Burial Chamber	Chambered tomb	Prehistoric	Cilymaenllwyd
CM050	Cairn Circle 585m NE of Meini Gwyr	Round barrow	Prehistoric	Cilymaenllwyd
CM051	Meini Gwyr	Henge	Prehistoric	Cilymaenllwyd
CM052	Yr Allor	Standing stone	Prehistoric	Cilymaenllwyd
CM053	Morfa-Bychan Burial Chambers Cairns, House Sites & Fields	Chambered tomb	Prehistoric	Eglwyscumin
CM054	Meini Llwydion Group of Standing Stones	Standing stone	Prehistoric	Llangynog
CM055	Twlc y Filliast Burial Chamber	Chambered tomb	Prehistoric	Llangynog
CM056	Rhyd-Lydan Cromlech	Unclassified site	Prehistoric	Llangain
CM057	Meini Llwydion Burial Chamber	Chambered tomb	Prehistoric	Llangain
CM058	Fron Ucha Burial Chamber	Chambered tomb	Prehistoric	Llansteffan
CM060	Group of Standing Stones NE of Llechdwnni	Standing stone	Prehistoric	Llandyfaelog
CM061	Mynydd Llangyndeyrn Burial Chamber	Chambered tomb	Prehistoric	Llangyndeyrn
CM063	Maen Melyn	Standing stone	Prehistoric	Llansteffan
CM064	Maen-Llwyd	Standing stone	Prehistoric	Llansteffan
CM065	Earthworks SE of Clyn-Derwen	Enclosure	Prehistoric	Clynderwen



CM066	Round Cairns & Standing Stone SW of Blaen-Nant-Rhys	Round cairn	Prehistoric	Llangeler
CM067	Tir-y-Dail Motte and Bailey Castle	Motte & Bailey	Medieval	Ammanford
CM069	Inscribed Stone N of Parciau Farmhouse	Inscribed stone	Early Medieval	Henllanfallteg
CM070	Castle Pencader	Motte	Medieval	Llanfihangel-ar-Arth
CM071	Inscribed Stone & Early Gravestones in Church	Inscribed stone	Early Medieval	Llanfihangel-ar-Arth
CM072	Inscribed Stone in Churchyard	Inscribed stone	Early Medieval	Cenarth
CM073	Crugiau Edryd Round Barrows	Round barrow	Prehistoric	Llanfihangel Rhos-y-Corn
CM074	Crug y Bwdran	Round barrow	Prehistoric	Llanybydder
CM075	Crug y Biswal Round Barrow	Round barrow	Prehistoric	Llanfihangel Rhos-y-Corn
CM076	Ring Cairn 50m North of Crug y Biswal	Round cairn	Prehistoric	Llanllwni
CM077	Talley Mound and Bailey Castle	Motte & Bailey	Medieval	Talley
CM080	Pen Castell	Motte	Medieval	Llangeler
CM081	Castell Pyr	Promontory Fort - inland	Prehistoric	Llanllwni
CM082	Grongaer	Hillfort	Prehistoric	Llangathen
CM083	Castle Cogan	Enclosure	Prehistoric	Llansteffan
CM084	Three Round Cairns SE of Blaen Carreg	Round cairn	Prehistoric	Llanybydder
CM085	Newcastle Emlyn Castle	Castle	Medieval	Newcastle Emlyn
CM086	Parc-y-Domen	Motte	Medieval	Cenarth
CM087	Newcastle Emlyn Bridge	Bridge	Post-Medieval/Modern	Newcastle Emlyn
CM088	Castle Heli Mound	Round barrow	Prehistoric	Eglwyscumin
CM089	Llandre	Enclosure	Prehistoric	Clynderwen

	Entrenchment			
CM090	Trichrug Round Barrows	Round barrow	Prehistoric	Trelech
CM091	Crug Glas Round Barrow	Round barrow	Prehistoric	Trelech
CM092	Crug Ieuan Round Barrow	Round barrow	Prehistoric	Cynwyl Elfed
CM093	Crug Ebolion	Round barrow	Prehistoric	Trelech
CM094	Maen Gwyn Hir	Standing stone	Prehistoric	Llanwinio
CM095	St Clears Mound and Bailey Castle	Motte & Bailey	Medieval	St Clears
CM096	Hendy Castle Mound	Motte	Medieval	Llanedi
CM097	Hendy Earthwork	Enclosure	Medieval	Llanedi
CM098	Llanboidy Mound & Bailey Castle	Motte & Bailey	Medieval	Llanboidy
CM099	Castell Meurig	Motte & Bailey	Medieval	Llangadog
CM100	Portis-Parc Camp	Enclosure	Prehistoric	Clynderwen
CM101	Pen y Gaer	Hillfort	Prehistoric	Llanybydder
CM102	Castell Nonni	Motte	Medieval	Llanllwni
CM103	Crug Tarw	Round barrow	Prehistoric	Llangeler
CM104	Crug Perfa Round Barrow	Round barrow	Prehistoric	Llangeler
CM105	Crug y Gorllwyn Round Barrow	Round barrow	Prehistoric	Llangeler
CM106	Nant Sais Round Barrow	Round barrow	Prehistoric	Llangeler
CM107	Moelfre Round Barrows	Round barrow	Prehistoric	Cenarth
CM108	Crug Gorllwyn Round Barrow	Round barrow	Prehistoric	Cenarth
CM109	Nant-Gronw Round Barrows	Round barrow	Prehistoric	Cynwyl Elfed
CM110	Clawdd-Mawr	Linear earthwork	Early Medieval	Cynwyl Elfed
CM111	Carn Wen Round Barrow	Round barrow	Prehistoric	Cynwyl Elfed
CM112	Crug Bach Round Barrow	Round barrow	Prehistoric	Cynwyl Elfed
CM113	Crug Glas Round Barrow	Round barrow	Prehistoric	Cynwyl Elfed

CM114	Castell Du Castle Mound	Motte	Medieval	Llanfihangel- ar-Arth
CM115	Gilfach-Fach Round Barrow	Round barrow	Prehistoric	Llanpumsaint
CM116	Crugiau Fach Round Barrows	Round barrow	Prehistoric	Llanpumsaint
CM117	Crug Gwyn Round Barrow	Round barrow	Prehistoric	Llanpumsaint
CM118	Crug Fach Round Barrow	Round barrow	Prehistoric	Cynwyl Elfed
CM119	Bwlch-Bychan Round Barrow	Round barrow	Prehistoric	Llanpumsaint
CM120	Banc Round Barrow	Round barrow	Prehistoric	Llanpumsaint
CM121	Pant-Glas Castle Mound	Motte	Medieval	Llanpumsaint
CM122	Pen Celli Standing Stone	Standing stone	Prehistoric	Llangyndeyrn
CM123	Clos-Teg Standing Stones	Standing stone	Prehistoric	Llangyndeyrn
CM124	Banc y Bettws Castle Mound	Motte	Medieval	Llangyndeyrn
CM125	Capel Bettws	Chapel	Medieval	Trelech
CM126	Castell Mawr	Enclosure	Prehistoric	Trelech
CM127	Crug y Deyrn Burial Chamber	Round barrow	Prehistoric	Trelech
CM128	Castell Bron- Niwl	Promontory Fort - inland	Prehistoric	Meidrim
CM129	Castell Bach	Motte	Medieval	Llanwinio
CM130	Crug Elwin Round Barrow	Round barrow	Prehistoric	Llanboidy
CM131	Castell Mawr Mound and Bailey Castle	Motte & Bailey	Medieval	Llanwinio
CM132	Crug Hywel Round Barrow	Round barrow	Prehistoric	Llanboidy
CM133	Pant-Glas Round Barrow	Round barrow	Prehistoric	Llanboidy
CM134	Two Round Barrows near Crossroads N of Eglwsfair-a- Churig Church	Round barrow	Prehistoric	Llanboidy
CM135	Little Mountain Round Barrow	Round barrow	Prehistoric	Llanddowror
CM136	Llansadurnen	Cross-marked	Early Medieval	Llanddowror

	Cross-Incised Stone & Other Stones	stone		
CM137	Pant-Glas Camp	Promontory Fort - inland	Prehistoric	Llanddowror
CM138	Parc-Cynog Camp	Promontory Fort - inland	Prehistoric	Llanddowror
CM139	Cwm-Brwyn Roman Site	Enclosure	Roman	Llanddowror
CM140	Castle-Lloyd Round Barrow	Round barrow	Prehistoric	Llanddowror
CM141	Castle-Lloyd Camp	Promontory Fort - inland	Prehistoric	Llanddowror
CM142	Pen-Coed Camp	Promontory Fort - inland	Prehistoric	Eglwyscumin
CM143	Trefenty Mound and Bailey Castle	Motte & Bailey	Medieval	St Clears
CM144	Llanfihangel Abercowin Old Parish Church & Norman Grave-Slabs	Church	Medieval	St Clears
CM145	Trefenty Standing Stone	Standing stone	Prehistoric	St Clears
CM146	Lower Court Standing Stone	Standing stone	Prehistoric	St Clears
CM147	Gors Standing Stone	Standing stone	Prehistoric	Llangynog
CM148	Bron-y-Gaer Camp	Hillfort	Prehistoric	Meidrim
CM149	Maes y Castell	Hillfort	Prehistoric	Manordeilo and Salem
CM150	Pen y Garn Camp	Hillfort	Prehistoric	Llanfihangel Aberbythych
CM151	Pen y Cnap Castle	Motte	Medieval	Llanegwad
CM152	Coleman Dovecot	Dovecote	Post-Medieval/Modern	Kidwelly
CM153	Capel Dewi	Chapel	Medieval	Dyffryn Cennen
CM154	Beddau'r Derwyddon	Pillow mound	Post-Medieval/Modern	Dyffryn Cennen
CM155	Bryngwyn Standing Stone	Standing stone	Prehistoric	Dyffryn Cennen
CM156	Dyffryn Camp	Hillfort	Prehistoric	Llanfynydd

CM157	Allt-y-Ferin Mound and Bailey Castle	Hillfort	Prehistoric	Llanegwad
CM158	Maen Pica	Standing stone	Prehistoric	Clynderwen
CM159	Capel Nebo Standing Stone	Standing stone	Prehistoric	Cilymaenllwyd
CM160	Llanglydwen Churchyard Cross	Cross	Early Medieval	Cilymaenllwyd
CM161	Cross-Incised Stones	Cross-marked stone	Early Medieval	Llanddowror
CM162	Ynys-y-Borde Earthwork	Enclosure	Prehistoric	Llandovery
CM163	Crugiau Leir Round Barrows	Round barrow	Prehistoric	Llanllwni
CM164	Mynydd Llanfihangel Rhos-y-Corn Round Barrow	Round barrow	Prehistoric	Llanfihangel Rhos-y-Corn
CM165	Cross-Incised Stone in Churchyard	Cross-marked stone	Early Medieval	Llanpumsaint
CM166	Hafod Camp	Promontory Fort - inland	Prehistoric	Llanboidy
CM167	Dolaucothi Mound	Mound	Roman	Cynwyl Gaeo
CM168	Esgair Ffraith Round Cairns	Round cairn	Prehistoric	Cynwyl Gaeo
CM169	Carn Fawr Round Cairn	Round cairn	Prehistoric	Cynwyl Gaeo
CM170	Fan Camp	Hillfort	Prehistoric	Llansadwrn
CM171	Cwm-Bran Camp	Enclosure	Prehistoric	Llansadwrn
CM172	Carn Pen-Rhiw-Ddu	Round cairn	Prehistoric	Llangadog
CM173	Caer Pencarreg	Hillfort	Prehistoric	Pencarreg
CM174	Arosfa Gareg-Llwyd Roman Camp	Marching camp	Roman	Llanddeusant
CM177	Gelli Burial Chamber	Chambered round cairn	Prehistoric	Llanfair-ar-y-bryn
CM178	Round Cairns 430m North West of Henrhyd	Round cairn	Prehistoric	Cwmamman
CM179	Bwlch Seiri	Enclosure	Prehistoric	Llangynog

	Camp			
CM180	Standing Stone S of Llwyn-Du Farm	Standing stone	Prehistoric	Llangadog
CM181	Standing Stone & Round Cairns S of Tyle- Pengam	Standing stone	Prehistoric	Llanddeusant
CM182	Berrisbrook Standing Stones	Standing stone	Prehistoric	Cilycwm
CM183	Kidwelly Town Gate & Defences	Gatehouse	Medieval	Kidwelly
CM184	Standing Stone NNW of Clomendy	Standing stone	Prehistoric	Llangain
CM185	Standing Stone 495m NW of Coynant	Standing stone	Prehistoric	Cilymaenllwyd
CM186	Standing Stone 630m NNW of Pant-yr-Odyn	Standing stone	Prehistoric	Cilymaenllwyd
CM187	Lan Round Barrows	Round barrow	Prehistoric	Llanboidy
CM188	Llandovery Roman Site	Fort	Roman	Llandovery
CM189	Ffos-y-Maen Standing Stone	Standing stone	Prehistoric	Llanpumsaint
CM190	Round Barrow 330m SW of Mynydd-Uchaf	Round barrow	Prehistoric	St Ishmael
CM191	Standing Stone NE of Halfway House	Standing stone	Prehistoric	Llangyndeyrn
CM192	Bryn Maen Standing Stone	Standing stone	Prehistoric	Llannon
CM193	Bryn-y-Rhyd Standing Stone	Standing stone	Prehistoric	Llanedi
CM194	Roman Earthwork 540m W of Y Pigwn	Fort	Roman	Myddfai
CM195	Llys-Brychan Roman Site	Villa	Roman	Llangadog
CM196	Pant-Teg Standing Stone	Standing stone	Prehistoric	Llanybydder

CM197	Pen-Lan-Uchaf Standing Stone	Standing stone	Prehistoric	Kidwelly
CM198	Is-Coed-Uchaf Standing Stone	Standing stone	Prehistoric	Llandyfaelog
CM199	Is-Coed Standing Stone	Standing stone	Prehistoric	St Ishmael
CM200	Dolaucothi Roman Aqueduct	Aqueduct	Roman	Cynwyl Gaeo
CM201	Crugiau Round Barrows	Round cairn	Prehistoric	Llanegwad
CM202	Gareg Hir Standing Stone	Standing stone	Prehistoric	Cynwyl Elfed
CM203	Mynydd Llangyndeyrn Round Cairns	Standing stone	Prehistoric	Llangyndeyrn
CM204	Garreg Las Hut Group	Enclosed hut circle	Prehistoric	Dyffryn Cennen
CM206	Roman Amphitheatre	Amphitheatre	Roman	Carmarthen
CM207	Pen y Gaer Hillfort	Hillfort	Prehistoric	Abernant
CM208	Dolaucothi Gold Mines	Gold mine	Roman	Cynwyl Gaeo
CM209	Kidwelly Medieval Town (Part of)	Town	Medieval	Kidwelly
CM210	Annell Aqueduct (lower section)	Aqueduct	Roman	Cynwyl Gaeo
CM211	Annell Aqueduct (upper section)	Aqueduct	Roman	Cynwyl Gaeo
CM212	Hut at upper end of Annell Roman Aqueduct	Building (Unclassified)	Roman	Cynwyl Gaeo
CM213	Cothi Roman Aqueduct	Aqueduct	Roman	Cynwyl Gaeo
CM214	Pen-Gaer Promontory Fort	Promontory Fort - inland	Prehistoric	Llanboidy
CM215	Nant-y-Mwyn Lead Mine Engine House Rhandir-Mwyn	Engine house	Post- Medieval/Modern	Llanfair-ar-y- bryn



CM217	Cross-Marked Stone at Cilymaenllwyd House	Cross-marked stone	Early Medieval	Llanelli Rural
CM218	Cairns & Stone Circle S of Pen-y-Raglan-Wynt	Ring cairn	Prehistoric	Cilycwm
CM219	Raby's Furnace	Iron forge	Post-Medieval/Modern	Llanelli Rural
CM220	Deserted Medieval Settlement	Deserted Medieval Village	Medieval	Eglwyscumin
CM221	Court Wood Enclosure 500m SSW of Pen-Llwyn-Isaf	Enclosure	Prehistoric	Cefn Sidan
CM222	Garreg Lwyd Enclosure 600m SE of Crosslane Cottages	Enclosure	Prehistoric	Cefn Sidan
CM223	Site of Forge at Llandyfan	Iron forge	Post-Medieval/Modern	Dyffryn Cennen
CM224	Cairn Groups on Garn Fawr	Ring cairn	Prehistoric	Cynwyl Gaeo
CM225	Stone Circle 200m SW of Cerrig Cynant	Stone circle	Prehistoric	Llanfair-ar-y-bryn
CM226	Pumpsaint Roman Fort	Fort	Roman	Cynwyl Gaeo
CM227	Remains of Blast Furnace at Pont Henry	Industrial building	Post-Medieval/Modern	Llangyndeyrn
CM228	Round Barrow 200m SSW of Felin-Wen-Isaf	Round barrow	Prehistoric	Abergwili
CM229	Y Garn Ring Cairn	Ring cairn	Prehistoric	Llanfynydd
CM230	Ring Cairn 120m NE of Heol Ddu	Ring cairn	Prehistoric	Gorslas
CM231	Merlins Hill Hillfort	Hillfort	Prehistoric	Abergwili
CM232	Hillslope Enclosure East of Glan y Mor	Enclosure	Prehistoric	Laugharne Township
CM234	Carmarthen	Town	Roman	Carmarthen

	Roman Town (part of)			
CM235	Carmarthen Roman Fort (part of)	Fort	Roman	Carmarthen
CM236	St John's Priory	Priory	Medieval	Carmarthen
CM237	Roman Water Tank E of Brunant Farm	Water tank	Roman	Cynwyl Gaeo
CM238	Waun Twmpath Motte	Motte	Medieval	Cefn Sidan
CM239	Llanwrda Castle Mound	Motte	Medieval	Llanwrda
CM240	Castell y Domen Gwempa	Motte	Medieval	Llangyndeyrn
CM242	Enclosure 150m NW of Eithin Man	Enclosed hut circle	Roman	Llangynog
CM243	Carmarthen Roman Town Defences (part of)	Town defences	Roman	Carmarthen
CM244	Round Barrow SE of Goodwins Row Efailwen	Round barrow	Prehistoric	Cilymaenllwyd
CM245	Castell Garw	Henge	Prehistoric	Cilymaenllwyd
CM246	Tumulus N of Goodwins Row Efailwen	Ring cairn	Prehistoric	Cilymaenllwyd
CM247	Earthwork 125m South West of Meini Gwyr	Ring cairn	Prehistoric	Cilymaenllwyd
CM248	Dome Gunnery Trainer Pembrey Airfield	Gunnery Training Dome	Post- Medieval/Modern	Cefn Sidan
CM249	Trebersed Moated Site	Moated Site	Medieval	Carmarthen
CM250	Yr Hen Gapel Llanybri	Chapel	Medieval	Llansteffan
CM251	Castell Waunberllan	Moated Site	Medieval	Myddfai
CM252	Dolgarn Moated Site	Moated Site	Medieval	Llanddowror

CM253	The Castle Woodreefe	Promontory Fort - inland	Prehistoric	Eglwyscummin
CM254	Hot & Cold Rolling Mills Kidwelly Tinplate Works	Industrial monument	Post-Medieval/Modern	Kidwelly
CM255	Tair Carn Uchaf Cairns	Round cairn	Prehistoric	Llangadog
CM256	Tair Carn Isaf Cairns	Round cairn	Prehistoric	Dyffryn Cennen
CM257	Carn Pen-y-Clogau	Round cairn	Prehistoric	Llangadog
CM258	Carnau'r Gareg Las	Round cairn	Prehistoric	Llanddeusant
CM259	Carn y Gigfran	Round cairn	Prehistoric	Llanddeusant
CM260	Stone Setting on Waun Llwyd	Stone circle	Prehistoric	Llanddeusant
CM261	Kymer's Canal and Pwll y Llygoed Tramroad Bridge	Canal	Post-Medieval/Modern	Trimsaran
CM262	Glynea Colliery	Coal Mine	Post-Medieval/Modern	Llanelli Rural
CM263	Genwen Engine House	Engine house	Post-Medieval/Modern	Llanelli Rural
CM264	Llangan Church Cropmark Enclosure	Enclosure	Prehistoric	Henllanfallteg
CM265	St David's Colliery	Coal Mine	Post-Medieval/Modern	Llanelli Rural
CM266	Penprys Pit Engine House	Engine house	Post-Medieval/Modern	Llangennech
CM267	Colliery Ventilation Furnace at Pembrey	Industrial monument	Post-Medieval/Modern	Cefn Sidan
CM268	Iron Tub Boats at Burry Port Harbour	Boat	Post-Medieval/Modern	Cefn Sidan
CM269	Cairn 150m ESE of Garnbig	Round cairn	Prehistoric	Llanfihangel Aberbythych
CM270	Glanstony Aqueduct Trimsaran	Aqueduct	Post-Medieval/Modern	Trimsaran
CM271	Stanley's	Tramroad	Post-	Cefn Sidan

	Tramroad Embankment Pembrey		Medieval/Modern	
CM272	Maesdulais Limekilns	Limekiln	Post-Medieval/Modern	Llanddarog
CM273	Odyn Jac Limekilns	Limekiln	Post-Medieval/Modern	Llanddarog
CM274	Section of former Carmarthenshire Railway Felinfoel	Railway	Post-Medieval/Modern	Llanelli Rural
CM275	Limekilns East of Cincoed	Limekiln	Post-Medieval/Modern	Dyffryn Cennen
CM276	Cincoed Limestone Quarries and Kilns	Quarry	Post-Medieval/Modern	Dyffryn Cennen
CM277	Limekilns at Penymynydd Pedair Heol	Limekiln	Post-Medieval/Modern	Llangyndeyrn
CM278	Garnbwll Limekiln	Limekiln	Post-Medieval/Modern	Llanddarog
CM279	Roman Road 250m NE of Pwll-y-Hwyaidd	Road	Roman	Whitland
CM280	St.Teilo's Church Llandeilo Abercywyn	Chapel	Medieval	Llangynog
CM281	Horeb Brickworks	Kiln	Post-Medieval/Modern	Llanelli Rural
CM282	Pencoed Lead Works	Lead mine	Post-Medieval/Modern	Llanelli Rural
CM283	Cae Sara Lead Mine	Lead mine	-	Llangadog
CM284	Group of Burnt Mounds 300m SSW of Cilcoll Farm	Burnt mound	Prehistoric	Llandybie
CM285	Two Burnt Mounds 600m ESE of Rhyd-y-Ffynnon Farm	Burnt mound	Prehistoric	Llandybie
CM286	Burnt Mound 450m ENE of	Burnt mound	Prehistoric	Dyffryn Cennen

	Caeglas Farm			
CM287	Two Burnt Mounds 350m W of Cwrtbrynbeirdd	Burnt mound	Prehistoric	Dyffryn Cennen
CM288	Burnt Mound 500m ESE of Llwyn Wennol	Burnt mound	Prehistoric	Llangadog
CM289	Burnt Mound 250m S of Cwm	Burnt mound	Prehistoric	Llanfihangel Aberbythych
CM290	Claustral Buildings St Clears Priory	Priory	Medieval	St Clears
CM291	Kidwelly Old Tinplate Works and Dam	Tinplate Works	Post-Medieval/Modern	Kidwelly
CM292	Ty Newydd Standing Stone	Standing stone	Prehistoric	Cilycwm
CM293	Gelli Diogyn Hillfort	Hillfort	Prehistoric	Llanboidy
CM294	Lan Enclosure	Enclosure	Medieval	Llanboidy
CM296	Pembrey Old Harbour	Pier	Post-Medieval/Modern	Cefn Sidan
CM297	Burnt Mound West of Derllys Court	Burnt mound	Prehistoric	Newchurch and Merthyr
CM298	Esgair Gaeo Deserted Rural Settlement	Rectangular hut	Post-Medieval/Modern	Cynwyl Gaeo
CM299	Burnt Mound on Esgair Ferchon	Burnt mound	Prehistoric	Cilycwm
CM300	Maen Bach Standing Stone	Standing stone	Prehistoric	Cilycwm
CM301	Mynydd Mallaen Standing Stone	Standing stone	Prehistoric	Cilycwm
CM302	Crugiau Merched Cairns	Round cairn	Prehistoric	Cilycwm
CM303	Mynydd Mallaen Long Hut	Rectangular hut	Medieval	Cilycwm
CM304	Cefn y Bryn Ring Cairn	Ring cairn	Prehistoric	Cynwyl Gaeo
CM305	Pen Cerrigiddos	Round barrow	Prehistoric	Cynwyl Gaeo

	Round Cairns			
CM306	Twyn yr Esgair Settlement	Rectangular hut	Medieval	Llanddeusant
CM307	Blaen y Cylchau Deserted Rural Settlement	Rectangular hut settlement	Post-Medieval/Modern	Llangadog
CM308	Bryn Helyg Round Barrow	Round barrow	Prehistoric	St Clears
CM309	Crugiau Round Barrows	Round barrow	Prehistoric	Clynderwen
CM310	Delacorse Uchaf Standing Stone	Standing stone	Prehistoric	Laugharne Township
CM311	Pant y Menyn Round Barrow	Round barrow	Prehistoric	Cilymaenllwyd
CM312	Derlwyn round barrow cemetery	Round barrow	Prehistoric	Llanllwni
CM313	Pen Lan round barrow cemetery	Round barrow	Prehistoric	Llanybydder
CM314	Garreg Wen Standing Stone	Standing stone		Cynwyl Elfed
CM315	Gelli Dewi Uchaf linear round barrow cemetery	Round barrow	Prehistoric	Pencarreg
CM316	Gwempa Standing Stone	Standing stone	Prehistoric	Llangyndeyrn
CM317	Carreg Wen Standing Stone	Standing stone	Prehistoric	Cynwyl Elfed
CM318	Garreg Wen round barrow	Round barrow	Prehistoric	Trelech
CM319	Crug-y-rhud-hir round barrow	Round barrow	Prehistoric	Llanllawddog
CM320	Crug Pant y Bugail round barrow	Round barrow	Prehistoric	Abernant
CM321	Garness Farm round barrow 400m to SW of	Round barrow	Prehistoric	Eglwyscumin
CM322	Eithin Bach round barrow	Round barrow	Prehistoric	St Clears
CM323	Old Castle motte	Motte	Medieval	Llanelli

CM324	Capel Dewi Llwynhendy	Chapel	Medieval	Llanelli Rural
CM325	Ffairfach standing stone	Standing stone	Prehistoric	Dyffryn Cennen
CM326	Banc Crucorford round cairn	Round cairn	Prehistoric	Cwmamman
CM328	Maes y Crug round barrow	Round barrow	Prehistoric	Llanegwad
CM329	Cilgerddan ring cairn	Ring cairn	Prehistoric	Llanddeusant
CM330	Bodyst-uchaf ring cairn	Ring cairn	Prehistoric	Cwmamman
CM331	Waun-hir post-medieval llost farmstead	Farmstead	Post-Medieval/Modern	Cwmamman
CM332	Bancbryn post-medieval llost farmstead	Farmstead	Post-Medieval/Modern	Cwmamman
CM333	Bancbryn cairn cemetery	Round cairn	Prehistoric	Cwmamman
CM334	Bancbryn platform cairn	Platform Cairn	Prehistoric	Cwmamman
CM335	Bancbryn cairn cemetery [east]	Round cairn	Prehistoric	Cwmamman
CM336	Picws Du cairn	Round cairn		Llanddeusant
CM337	Arhosfa'r Garreg-lwyd barrow	Round barrow	Prehistoric	Llanddeusant
CM339	Banc Maes-yr-Haidd barrows	Round barrow	Prehistoric	Cynwyl Gaeo
CM340	Carn Wen round cairn	Round cairn	Prehistoric	Llanfair-ar-y-bryn
CM341	Cerrig Cedny round cairn	Round cairn	Prehistoric	Llanfair-ar-y-bryn
CM342	Carn Twrch round cairn	Round cairn	Prehistoric	Llanfair-ar-y-bryn
CM344	Bryn-Poeth-Uchaf ring cairn to NE of	Ring cairn	Prehistoric	Llanfair-ar-y-bryn
CM345	Bryn-Poeth-Uchaf ring cairn to ESE of	Ring cairn	Prehistoric	Llanfair-ar-y-bryn
CM346	Mynydd Myddfai ring cairn	Ring cairn	Prehistoric	Myddfai

CM347	Tomen y Rhos round cairn	Round cairn	Prehistoric	Myddfai
CM348	Mynydd Myddfai round barrow	Round barrow	Prehistoric	Myddfai
CM349	Mynydd Myddfai ring cairns on W end of	Ring cairn	Prehistoric	Myddfai
CM350	Pen Caenewydd ring cairn	Ring cairn	Prehistoric	Myddfai
CM351	Mynydd Myddfai round cairn	Round cairn	Prehistoric	Myddfai
CM352	Troedriwhir Mountain ring cairn	Ring cairn	Prehistoric	Cilycwm
CM353	Troedriwhir standing stone	Standing stone	Prehistoric	Cilycwm
CM355	Cwm Twrch settlement and limekiln	Building (Unclassified)	Post- Medieval/Modern	Quarter Bach
CM356	Carn Fadog round cairn	Round cairn	Prehistoric	Quarter Bach
CM357	Pont Clydach settlement	Building (Unclassified)	Post- Medieval/Modern	Llangadog
CM358	Cwm Clydach settlement	Building (Unclassified)	Post- Medieval/Modern	Llangadog
CM359	Moel Gornach settlement	Building (Unclassified)	Post- Medieval/Modern	Llangadog