CORNWALL, TAMAR VALLEY AND ISLES OF SCILLY AONB LANDSCAPE MONITORING PROJECT

MONITORING PROTOCOLS

For:
The Cornwall, Tamar Valley and Isles of Scilly AONB Partnerships

Prepared by:
Land Use Consultants

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TABLE OF INDICATORS AND THEIR MONITORING PROTOCOLS

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
1.1: Levels of tranquillity	**Purpose of indicator:** *To assess the differing levels of tranquillity across the areas of the AONBs.*							
	Method 1: Tranquillity mapping		C, T, S		■			5 years (or when data available)
	Type of data:	National dataset						
	Data source and year:	CPRE, Tranquil Area maps (2007)						
	Scale of data:	500 m² grid						
	Units of measurement:	Scoring system based on 21 positive and 23 negative characteristics						
	GIS programme used for analysis:	ESRI ArcMap 9.2 with Spatial Analyst extension						
	Data manipulation method for AONB monitoring: Clip the data files to the AONB Areas (12 for Cornwall, 3 for Tamar and 5 for Isles of Scilly), using the raster calculator in the Spatial Analyst extension.							
	Calculations: The above method gives figures for the 'highest', 'lowest' and 'mean' values of tranquillity for each AONB area, to allow comparison to be made with previous CPRE statistics.							
	Method 2: Monitoring of traffic flows (sea, air and vehicle)		S		■			5 years
	Type of data:	Primary and local data						
	Data source:	Traffic count (sea, vehicle) Airport records (air)						
	Location of survey/data collection:	St Mary's (St Mary's Quay for the sea survey, Hugh Town for vehicle counts)						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
		St Mary's and Tresco (air)						
	Proposed time of survey/data collection:	Sea: First Sunday and a week day in August (8am-8pm), first Sunday and a week day in February (8am-8pm) Traffic: First Sunday and a week day in August (8am to 8pm) and first Sunday and a week day in February Air: First full week in August and first full week in February						
	Nature of surveyors:	Members of the local community or students						
	<u>Method of data collection / interpretation for AONB monitoring:</u> <u>Sea traffic survey:</u> Surveyors will record the number and type of waterborne craft travelling to and from St Mary's Quay, broken down by hour. Surveyors should distinguish between: • Scheduled ferries • Commercial boats • Leisure sailing boats • Sailing dinghies • Motor boats <20' • Other (state) The results should be inputted into an Excel spreadsheet or similar database to allow graphical representation and ease of comparison with future survey results. <u>Road traffic survey:</u> Surveyors will record both traffic flows and the number of parked vehicles along two main roads in Hugh Town. The following to be clearly identified: the two selected roads; the location of the transects where traffic flows are counted; the length of road along which parked cars are counted. Traffic flows to be recorded on a continuous basis broken down							

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	by hour; parked vehicles to be counted on an hourly basis. Surveyors to distinguish between: • Motorcycles/ scooters • Cars • Vans (small) • Large vans (transit type) • Other (state) The results should be inputted into an Excel spreadsheet or other similar database to allow graphical representation and ease of comparison with future survey results. <u>Air traffic data:</u> The AONB is to collect data on the number of commercial helicopter (Tresco and St Mary's) and plane (St Mary's) flights taking place in the first weeks of January and August.						
	Method 3: Visitor perception survey	S	■				Annual
	Type of data: — Primary						
	Data source: — Isles of Scilly Visitor Survey						
	Time of survey: — Summer season						
	<u>Method of data collection / interpretation for AONB monitoring:</u> The annual visitor survey should include the following questions to allow comparisons to be made over time: 1) *How tranquil (peaceful and quiet) are the Islands?* a) Very tranquil; b) tranquil, but some areas less so; c) less tranquil than expected. 2) *If you have visited the Islands before, do you feel that they have:* a) same levels of tranquillity; b) become more tranquil; c) become less tranquil? The results should be inputted into an Excel spreadsheet or other similar database to allow graphical representation and ease of comparison with future survey results.						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
1.2: Levels of intrusion	**Purpose of indicator:** *To assess the extent to which the rural areas of the AONBs are affected by the [visual and audible] intrusion of features such as roads, railways and urban areas.*							
	Method 1: Intrusion mapping		C, T, S		■			5 years (or when data available)
	Type of data:	National dataset						
	Data source and year:	CPRE, Intrusion maps (2007)						
	Scale of data:	500 m² grid						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2 with Spatial Analyst extension						
	Data manipulation method for AONB monitoring: Clip the intrusion data (raster) to the AONB Areas (12 for Cornwall, 3 for Tamar and 5 for Isles of Scilly).							
	Calculations: The above method produces figures for the total area of land in each AONB area falling within three categories: 'Disturbed', 'Undisturbed' and 'Urban'.							
	Limitations of the data Although this data will allow comparisons to be made with previous CPRE mapping back to the 1960s, it is important to note that there is a difference in coastal boundaries on the earlier maps. Therefore, the sum of the area disturbed by noise and visual intrusion and the undisturbed area for 2007 will not always equal the total area for the 1960s and 1990s time periods. This will only affect the areas of the AONBs that occur on or near coastal boundaries (which form the majority of the Cornwall AONB). Another important note is that the 1960s and 1990s map did not take into account Intrusions on the Isles of Scilly. Therefore a comparison cannot be made to see how intrusions have changed over the past 40+ years in this AONB. Also, because the							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	methodology measured intrusions such as 'A' roads, this inevitably has limited applicability to the Isles of Scilly, which is devoid of such built features. Figures should therefore be treated with caution for the Isles of Scilly.							
	Method 2: Monitoring of off-shore wind developments		C, T, S		■			5 years
	Type of data:	National database (web-based)						
	Data source and year:	UK Wind Energy Database (constantly updated)						
	Information available:	List of off-shore wind farms broken down by planning /operational status. Also includes OS grid reference, size, capacity and number of turbines.						
	<u>Data manipulation method for AONB monitoring:</u> The AONBs should check the database for any applications for wind farm developments, using the available grid references to plot the location of the development sites and any subsequent construction (as 'point data' in GIS). GIS should be used to identify sites within the following distance bands from the coastline: • Within 5 km • 5 – 10 km							
	<u>Calculations:</u> Information for each windfarm on the number of turbines should be recorded in the attribute table in GIS, to enable a calculation of the total number of turbines, within the above bands, by AONB area. The attribute table should also record the planning status of each off-shore wind development.							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
1.3: Extent of dark night skies	**Purpose of indicator:** *To assess which areas of the AONBs have the darkest night skies, and which are subject to greatest artificial light pollution.*							
	Method 1: Night Blight mapping		C, S, T					5 years (or when data available)
	Type of data:	National dataset						
	Data source and year:	CPRE, Night Blight map (2000)						
	Scale of data:	1 km² grid						
	Units of measurement:	Values of 0-255 which measure the brightness of each pixel recorded from satellite imagery (a zero value indicates no detection of night time light)						
	GIS programme used for analysis:	ESRI ArcMap 9.2 with Spatial Analyst extension						
	<u>Data manipulation method for AONB monitoring:</u> Clip the data files to the AONB Areas (12 for Cornwall, 3 for Tamar and 5 for Scilly), using the raster calculator in the Spatial Analyst extension.							
	<u>Calculations:</u> The above method gives a breakdown by AONB area of levels of dark night skies in five coloured bands (that correlate to the symbology displayed in GIS). This method allows comparison to be made with previous CPRE statistics (e.g. the baseline for 2000 is compared with the results for 1993).							
	<u>Limitations of this data:</u> Note that due to the scale of the data, it is to be treated with caution, particularly for the Isles of Scilly.							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Method 2: Star counting		C, T, S					5 years
	Type of data:	Primary survey						
	Location:	One location within each AONB area (Cornwall); two locations in Tamar Valley AONB; one location on each of the 5 inhabited Scilly islands.						
	Nature of surveyors:	Members of the local community, including special interest groups such as Astronomy Clubs.						
	Time of survey:	A cloudless night in December or January (at times when there is no full moon)						
	<u>Method of data collection / interpretation for AONB monitoring:</u> The AONBs should select locations within their AONBs that are currently subject to the least light pollution (informed by the Night Blight mapping overlain over a 1:50,000 base, which can be used to pinpoint both suitable and accessible locations for the count). Surveyors should record the number of visible stars in the Orion constellation (within the roughly rectangular shape indicated by four very bright stars surrounding Orion), and feedback the results to the AONB teams, clearly recording the location and time of the count. The AONBs should collate the figures and record them electronically by location (e.g. AONB area) to allow future comparisons to be made. Note that there may be future opportunity to link with CPRE's national *Night Blight* programme, which has included a star count in December 2006-January 2007 at locations across the country (including Devon and Cornwall). CPRE are considering a repeat survey as a measure of changing levels of light pollution.							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Method 3: Fixed point photography *(note link to indicator 2.7)*		C, T, S					
	Type of data:	Primary survey (fixed point and fixed post photography)						
	Location:	One location within each sample square, with at least one reflecting likely pressure from light pollution (e.g. settlement edge). The choice of location should produce photographs that are representative of the sample square landscape.						
	Time and duration of photography:	Clear night (no full moon) – one in July (11pm – 12 pm) and one in November (7pm – 8pm) the same year.						
	Equipment required:	Camera (suitable for night-time photography) Tripod GPS / compass						

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	Method of data collection / interpretation for AONB monitoring: • The location for each shot should be noted from a GPS recorder on a survey pro-forma sheet – it is particularly important to record the positions and angles of view to enable resurvey (if not using fixed posts, which should be used where possible to ensure accuracy of resurvey). Note down distances from at least two 'permanent' features (e.g. gate posts) to allow for accurate relocation of the photo frame. • The height of the viewfinder should be measured from consistent, ground level, with the ease of relocating the tripod for resurvey in 5 years being considered (if not using fixed posts). • The shot should be taken horizontally, at a focal length of 50mm (record if any variation). • Record the photograph numbers on the pro-forma sheet. All information recorded on the pro-forma should be transferred to an electronic database for safe-keeping, arranged by LMU. The AONBs will be able to use future photographs to compare the extent of any light pollution visible on the photographs, by overlaying the images in a photo editing software programme (e.g. Adobe Photoshop) and using the 'transparency' tool to assist comparison between the two (or more) images.						
	Method 3: Visitor perception survey	S	■				Annual
	Type of data: Primary Data source: Isles of Scilly Visitor Survey Time of survey: Summer season Method of data collection / interpretation for AONB monitoring: The annual visitor survey should include the following question to allow comparisons to be made over time: *Do you believe there are more or less sources of light pollution [if you have visited before]?*						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	a) more; b) less The results should be inputted into an Excel spreadsheet or other similar database to allow graphical representation and ease of comparison with future survey results.							
1.4: Coastal erosion	**Purpose of indicator:** *To monitor levels of coastal erosion due to the impacts of climate change.*							
	Method: Use the results from an ongoing coastal monitoring programme		C, S		■			When available
	Type of data:	Scientific modelling data (e.g. LIDAR, Topographic, sediment distribution)						
	Data source	South West Regional Coastal Monitoring Programme (Plymouth University)						
	<u>Method of data collection / interpretation for AONB monitoring:</u> Because of the extremely detailed and scientific nature of the data collected for the Coastal Monitoring Programme, it is suggested that the AONBs aim to attend meetings that will discuss the 'headline' findings of the project, through the Cornwall and Isles of Scilly Coastal Authorities – the local representative group of the Programme.							
1.5: Condition of SSSIs	**Purpose of indicator:** *To monitor change in habitat condition in nationally important wildlife sites.*							
	Method: Use of national condition monitoring dataset		C, S, T		■			2 years
	Type of data:	National dataset						
	Data source and year:	SSSI condition dataset (Natural England, 2008 – continually updated)						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Data manipulation method for AONB monitoring: Clip the SSSI dataset to the AONB dataset. Intersect the clipped SSSI file with the LMU boundary shapefile to work out which LMUs have SSSI land within their boundaries. Create a layer file to load the symbology for the condition class.							
	Calculations: The separate SSSI area polygons need to be dissolved using the condition class and the AONB area fields. The 'calculate geometry' function should be used to calculate the area of each condition class in each AONB area (with calculations made in hectares). The mapped condition classes and area calculations can then be used to compare future results against (e.g. through overlaying future mapping in GIS).							
2.1: Extent of woodland and tree cover / type	**Purpose of indicator:** *To identify and monitor the size and distribution of different types of woodland cover found across the AONBs.*							
	Method 1: Use of available habitat and woodland mapping datasets		C, T, S			■		5 years
	Type of data:	National, county and local datasets						
	Data source and year:	a) Cornwall LIFE dataset (1995, ERCCIS) b) Landcover Map 2000 (2000, Devon County Council, 2000) c) National Inventory of Woodland and Trees (2000, Forestry Commission – updated every 10 years) d) Ancient Woodland Inventory (1999, Natural England) e) Isles of Scilly Habitat Audit (2003, Isles of Scilly Wildlife Trust)							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	Data manipulation method for AONB monitoring: This indicator uses a different data source for areas of the AONBs within the county of Cornwall (the Cornwall LIFE date), Devon (Landcover 2000) and the Isles of Scilly (Isles of Scilly Habitat Audit). In addition, nationally available datasets have been used to provide as a secondary datasource – please note that the National Inventory of Woodland and Trees only assesses woodland areas over 2 hectares, hence the need to use more local data. *To map woodland cover by type:* a) The Cornwall LIFE dataset needs to be clipped to the LMU boundary dataset, with the following categories extracted as a new feature class: • Broadleaved • Conifer • Mixed • Felled • Scrub The new feature class with the above categories should then be intersected with LMU shapefile to map woodland type per LMU (with the separate woodland polygons dissolved by type and LMU). A layer file should be created to enable a symbology to be assigned to the different woodland types. b) The Devon Landcover 2000 data should be treated the same as the LIFE data, using the following categories of woodland type: • Broadleaved • Conifer c) The National Inventory of Woodland and Trees data should be interrogated using the							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	same process outlined for the Cornwall LIFE data, with the separate woodland 'type' polygons dissolved by LMU. d) The Ancient Woodland Inventory dataset should also be interpreted following the above method, with separate polygons dissolved by LMU using the 'status' field ('PAWS or ASNW). e) For the Isles of Scilly Habitat Audit dataset, the steps followed for the Cornwall LIFE data should be used, with the 'Trees/shrub hedges and shelterbelts' vegetation type extracted as a new feature class (to produce a GIS shapefile). This should then be intersected with the LMU shapefile to map the extent of this tree cover by LMU.							
	<u>Calculations:</u> The 'calculate geometry' tool in GIS should be used after the above steps, to calculate the total area of different woodland types (in hectares) by LMU. The mapped woodland type and area calculations provide the baseline against which future results can be compared (e.g. through overlaying future mapping in GIS).							
	Method 2: Aerial photographic interpretation Because of the lack of GIS based data relating to the Isles of Scilly for this indicator, aerial photographs were also interpreted to map and calculate the area of tree/woodland cover, other than field boundaries, within the sample squares.		S					5 years
	Type of data:	Aerial photographs (digitised)						
	Data source and year:	Natural England (1996)						
	Scale and resolution of photographs	Unknown						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	<u>Data manipulation method for AONB monitoring:</u> Create a polygon shapefile within the project's geodatabase[1] using the 'add feature class' tool. The geodatabase is linked with a domain set up for the different woodland types, as follows: • Broadleaved (to include mature scrub trees) • Coniferous • Mixed The polygons then need to be converted to a feature class file (to produce a stand-alone GIS shapefile).						
	<u>Calculations:</u> The 'calculate geometry' function can be used to give figures (in hectares) of the different woodland type categories by sample square. Intersected with the LMU shapefile, this can give figures arranged by LMU. The mapped woodland and area calculations provide the baseline against which future results can be compared (e.g. by overlaying future mapping from aerial photographs in GIS). (A tree survey undertaken on behalf of the Duchy of Cornwall is due to be completed later in 2008 – the AONB should pursue making the mapped information available in GIS format).						
	<u>Image interpretation – key guidelines</u> The following decisions were made when interpreting the 1996 aerial photographs: • Type of tree cover is determined primarily by crown shape and then by colour (e.g. more rounded crown indicating broadleaved, and pointed and dark green/grey indicating coniferous). • Mastermap also used as a guide to identify tree cover, particularly to differentiate between areas of more mature heath/scrub and woodland (used as guide only, as						

[1] A geodatabase can be used to hold all the new shapefiles created for the AONB monitoring project using aerial photographic interpretation

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	photographs were taken at an earlier date than Mastermap). • No hedgerow trees included or those that followed field boundaries. • In some cases hedgerow trees had matured and grown out, and the field appeared to no longer be in agricultural use. Therefore tree cover in these instances was digitised. • Small groups of trees were also digitised, where they were clearly not part of a field boundary.						
2.2: Agricultural land use	**Purpose of indicator:** *To monitor the distribution of different agricultural land uses across the areas of the AONBs.*						
	Method 1: Analysis of nationally available statistics	C, T, S		■			5 years
	Type of data: — National statistics						
	Data source and year: — Defra June Agricultural Census (2007)						
	Units of measurement: — Hectares						
	Programme used for analysis — Excel						
	<u>Data manipulation for AONB monitoring</u> Defra's York office should be contacted to provide analyses of the Agricultural Census data by AONB area (the 12 areas of the Cornwall AONB, five inhabited islands of Scilly and three parts of the Tamar Valley AONB – Devon, Cornwall and Lynher). Data should be collected for the following categories (in hectares): **Grassland** • Grass < 5 yrs & permanent pasture • Sole right rough grazing **Crops** • Total cereals • Total combinable crops (combining 'winter and spring oilseed rape', 'linseed' and 'field beans and peas for harvesting dry')						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	• Maize (fodder and grain) • Root crops, brassicas and fodder beet for stockfeeding • Other crops **Horticulture** • Total orchards • Total horticultural crops (combining 'small fruit', 'peas and beans' and 'other vegetables and salads') • Hardy nursery stock bulbs and flowers • Total glasshouse bulbs and flowers							
	<u>Limitations of the data:</u> Due to data protection and issues of confidentiality, the agricultural statistics are not fully represented for some of the smaller AONB areas and much of the Isles of Scilly. Therefore this data should be used to give an overall impression of agricultural land use (and future key trends), but should always be backed up by more local data under Method 2.							
	Method 2: Sample farm survey		C, S, T			**S**		
	Type of data:	Primary(questionnaire survey)						
	Scale:	Sample squares (1 farm in each sample square)						
	Units of measurement	Hectares						
	Programme used for analysis:	Excel						
	<u>Data manipulation method for AONB monitoring:</u> To add a more local perspective to the AONB area statistics under Method 1, questionnaires should be circulated to farms within the sample squares (one in each sample square). The AONBs should prepare a survey pro-forma sheet, roughly following the categories analysed from the June Agricultural Census to allow ease of comparison. This questionnaire should also include questions for the monitoring of indicator 3.3.							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	For the Isles of Scilly, information can also be gathered from major land owners and managers, particularly the Duchy (for their tenant farmers) and Isles of Scilly Wildlife Trust (for their own holdings). Repeat surveys should use the same questions (and farms) to allow accurate monitoring of agricultural land use change.							
2.3: Extent of biomass planting	**Purpose of indicator:** *To monitor the extent of energy crop planting across the different areas of the AONBs*							
	Method 1: Analysis of national support scheme data		C, T, S			■		5 years
	Type of data	GIS shapefile						
	Data source and year:	Energy Crops Scheme shapefile (Defra, Feb 2007)						
	Units of measurement	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	<u>Data manipulation method for AONB monitoring</u> The ECS shapefile should be loaded into GIS and displayed over the LMU boundary shapefile. The 'intersect' tool can be used to map the location of agreements found within the LMUs.							
	<u>Calculations:</u> Information should be recorded (exported into Excel) from the following fields in the ECS shapefile's attribute table: • Start date of the agreement • End date of the agreement • Duration of the agreement (years) • Area (ha) • Crop type							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	The mapped agreements can be retained as a shape file against which future analyses of ECS take-up can be compared (through overlaying the shapefiles). The total area of the different crop types could also be analysed on an LMU or AONB area scale (at present there is only one agreement in the three AONBs, so this interpretation is not required).							
	Method 2: Aerial photographic interpretation of visible planting		C, T, S			■		5 years
	Type of data:	Aerial photographs (digitised)						
	Data source and year:	When next available from the local authorities						
	Scale and resolution of photographs	25cm resolution; 1:10,000 scale (varies according to extent of zooming)						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	<u>Data manipulation method for AONB monitoring:</u> The first method of monitoring for this indicator only indicates the location of support agreements for biomass planting, but does not reflect what is actually visible on the ground. The AONBs should monitor the presence/absence of biomass planting by using the ECS agreement shapefile to pinpoint locations of likely planting on future aerial photographs. Aerial photographic interpretation can be used to create polygons around any visible planting and can be used to calculate areas in hectares.							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
2.4: Field pattern	**Purpose of indicator:** *To monitor the location and extent of different field patterns across the AONB landscapes.*							
	Method: Aerial photographic interpretation		C, T, S				■	
	Type of data:	Aerial photographs (digitised) Digital mapping						
	Data source and year:	Cornwall County Council (2005) Devon County Council (2005) Natural England (Scilly) (1996) MasterMap (Cornwall County Council – Ordnance Survey, 2008) Digimap (Devon County Council, 2008)						
	Scale and resolution of photographs	25cm resolution; 1:10,000 scale (varies according to extent of zooming) Scilly: Unknown						
	Units of measurement:	Hectares (fields) and metres (boundaries)						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	<u>Data manipulation method for AONB monitoring:</u> This indicator is monitored in three ways: 1) Field boundary type 2) Field sizes and 3) Field shape. The different data analysis processes are outlined below. **Field boundary type and field sizes:** A new feature class is created within the project's geodatabase, linked with a domain set up for the different field boundary types, as follows: • Cornish hedge (C) • Devon hedgebank (D) • Wooded boundary (W) (in nearly all cases these are grown-out hedges) • Stone wall (S)							

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
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	• Gate (G) • Gap (GP) • Other (O) For Scilly: • Hedge (H) • Shelter hedge (S) • Other (O) Mastermap then needs to be clipped to the sample squares shapefile. The 'General features' should be extracted from Mastermap, and then converted to a geodatabase layer. Aerial photographs are added to data frame for interpretation, cross referring to the boundaries visible on Mastermap and deleting or adding boundaries where appropriate to match what is seen on the photographs (see below for guidelines on interpretation). At the same time, each boundary is classified into one of the above boundary categories. The 'Build polygon' tool should be used to convert the file from polylines to polygons to produce a file illustrating visible field patterns. This should be converted to a 'feature class' file (to produce a new GIS shapefile). **Field boundary shape:** Two classifications are used within the original shapefile (ie before the file dissolved or built, with polylines still displaying), using a column in the attribute table for: • Sinous (S) • Straight/Regular (R) Each of the polylines (representing field boundaries) is classified by one of the above – see guidelines below.						
	<u>Image interpretation – key guidelines</u> **Field boundary type**						

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	For classifying the different boundaries, the following guidelines should be followed: • Cornish/Devon hedgebank: clearly defined boundaries of an even shape, with a topping of vegetation. If trees appear to be well-managed (ie not overgrown away from the boundary line), the boundary is still put into this classification. Classed as 'Cornish' or 'Devon' dependent on location. • Wooded boundary: indicating mainly overgrown hedges with uneven boundary line. • Stone wall: clearly defined boundary, distinguished from a hedgebank by a lack of topping vegetation. • Other: all other features defining a field edge, including fences, footpaths, buildings, woodland, scrub, etc. For the **Isles of Scilly**, the baseline digitisation was problematic due to a poor image resolution and cloud cover obscuring some views on the 1996 aerial photographs. In general, three categories were used: • Hedge: As for Cornish/Devon hedgebank • Shelter hedge: As this category was difficult to identify through the aerial photos, the shapefile for the habitat mapping undertaken by the Isles of Scilly WT (2003) was overlain for guidance (NB only on WT holdings) • Other: As above It is suggested that if a planned fly-over is carried out later in 2008, the calculations for this indicator, and others relying on aerial photographic interpretation, should be revisited. **Field boundary shape** The two classifications used followed these guidelines: • Sinuous: boundaries were given this classification if they were 'wavy' in orientation and bounded fields of an irregular shape. • Straight/regular: this category was used for boundaries bordering a regularly shaped field (even if the boundaries displayed a gentle curve and are not necessarily perfectly						

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	straight). Calculations: **Boundary type and length classifications** Shapefile dissolved using sample square and type, to allow the calculation of the total length (in metres) of each type per sample square using the 'calculate geometry' tool. **Field size calculations** The shapefile is converted to a 'coverage' type, with the 'build polygon' function used to create polygons for field size calculations. File converted to feature class and intersected with sample square files to give fields per sample square. An area field is added to the attribute table and the 'calculate geometry' tool used to calculate polygon size. Figures for the report are created based on the sample squares, calculating the average, smallest and largest field size in each. **Field shape calculations** The file is dissolved based on sample square and boundary shape to calculate the total length of straight (regular) and sinuous field boundaries per sample square. A length field added to attribute table and the 'calculate geometry' tool used to calculate in meters. The mapped field pattern and the associated calculations provide the baseline against which future results can be compared (e.g. through overlaying future mapping from aerial photographs in GIS to show any key changes to the characteristic field pattern of different locations; statistics will show any changes to field boundary type, linking to indicator 3.4).						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
2.5: Extent of semi-natural habitats	**Purpose of indicator:** *To identify and monitor the location and extent of different semi-natural habitats.*							
	Method 1: Use of available habitat mapping datasets		C, T, S			■		5 years
	Type of data:	County and local datasets						
	Data source and year:	a) Cornwall LIFE dataset (1995, ERCCIS) b) Landcover Map 2000 (2000, Devon County Council, 2000) c) Isles of Scilly Habitat Audit (2003, Isles of Scilly Wildlife Trust)						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	<u>Data manipulation method for AONB monitoring:</u> This indicator uses a different data source for areas of the AONBs within the county of Cornwall (the Cornwall LIFE date), Devon (Landcover 2000) and the Isles of Scilly (Isles of Scilly Habitat Audit). a) and b) Both the Conrwall LIFE and Devon Landcover 2000 habitat shapefiles need to be clipped to the LMU boundary dataset. For each LMU, the relevant habitat types are selected from the available categories in the datasets linking back to the character statements. a) For the Cornwall LIFE data, 'types' are used with the exception of dwarf shrub heath – for which the multiple type categories need to be analysed in conjunction with the broad habitat type to give an overall figure for reporting purposes. For all other habitat types, the 'broadest' available category that best fits with the character statement should be chosen (e.g. wetland), rather than selecting all available types relating to this (e.g. wetland and scrub). The exception to this rule of heathland is due to its presence at a landscape scale in							

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	many locations within the AONBs (consequently the presence of scrub or bracken within this overall habitat can have significant visual impacts and need to be mapped separately to enable accurate monitoring). b)The Landcover Map 2000 data is interrogated using the 'subclass' field of habitat types. c) The IoS Habitat Audit shapefile is analysed by the 'style' category of vegetation types. (a), (b) and (c): The required habitat fields should be selected from the original datasets and clipped into new feature classes (shapefiles – one for each of the three data sources). These then need to be intersected with the LMU shapefile to map the extent of the different habitats by LMU (with the separate polygons dissolved by type and LMU). A layer file should then be created to enable a symbology to be assigned to the different habitat types.						
	<u>Calculations</u> The 'Calculate Geometry' is used to calculate the area (in hectares) of each habitat type per LMU. The mapped habitat type and area calculations provide the baseline against which future results can be compared (e.g. through overlaying future mapping in GIS). To do this it is important to ensure that the same habitat types are selected each time for each individual LMU.						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
2.6: Presence [and condition] of historic landscape features	**Purpose of indicator:** *To monitor the number of visible historic landscape features across the AONBs, and assess their condition where possible.*							
	Method 1: Analysis of the county Historic Environment Record (HER)		C, T, S				■	5 years
	Type of data:	GIS shapefile						
	Data source and year:	Cornwall Historic Environment Record (2008, Cornwall County Council) and the equivalent for Devon						
	Units of measurement:	Number of features by age and type						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	<u>Data manipulation method for AONB monitoring:</u> The HER shapefile is clipped to the sample square shapefile. For each sample square, 'extant features' present are identified by type ('Site_Type') and age period. ('Display'). To display features by LMU, the clipped data is intersected with the LMU boundary shapefile.							
	<u>Calculations:</u> The clipped data is intersected with the LMU boundary shapefile to give a breakdown of the number of features by type and age period by LMU (ie for the sample squares combined).							
	Method 2: Information sharing with existing monitoring programmes		C, T, S			■		To tie in with other monitoring programmes

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Data manipulation method for AONB monitoring: Condition monitoring programmes are being developed nationally by English Heritage (the *Heritage Risks* programme, due for its first reporting in July 2008), and regionally by the Cornish Mining World Heritage team, based at Cornwall County Council. The AONBs should seek to tap into the work of these organisations to obtain monitoring information on the condition of historic landscape features identified through the first method. Any information sharing would work to mutual benefit (e.g. pooling resources for site surveys).							
2.7: Settlement pattern	**Purpose of indicator:** *To monitor the location of development and impacts of any change on characteristic settlement form across the AONBs.*							
	Method: Aerial photographic interpretation		C, T, S					5 years (or date of next photos)
	Type of data:	Aerial photographs (digitised) Digital mapping						
	Data source and year:	Cornwall County Council (2005) Devon County Council (2005) Natural England (Scilly) (1996) MasterMap (Conrwall County Council – Ordnance Survey, 2008) Digimap (Devon County Council, 2008)						
	Scale and resolution of photographs	25cm resolution; 1:10,000 scale (varies according to extent of zooming) Scilly: Unknown						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	Data manipulation method for AONB monitoring: A new feature class is created within the project's geodatabase, linked with a domain set up							

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	for settlement types, as follows: • Permanent development • Temporary caravans / camping (including numbers as a separate field) • Static caravans / chalets (including numbers as above) • Agricultural glass houses (including polytunnels) (including polytunnels) Mastermap should be clipped to the sample squares shapefile. The 'Buildings' and 'General features' should be extracted from Mastermap, and then converted to a geodatabase layer. Aerial photographs are then added to data frame for interpretation, cross referring to the boundaries visible on Mastermap and deleting or adding boundaries where appropriate to match what is seen on the photographs (see below for guidelines on interpretation). Once the digitising of the settlement pattern has been completed, the 'Build polygon' tool should be used to convert the file from polylines to polygons. Each polygon is then classified in line with the four categories above, with the numbers of visible caravans/tents/chalets included. Settlement names can be added to guide orientation. This should be converted to a 'feature class' file (to produce a stand-alone GIS shapefile).						
	<u>Image interpretation – key guidelines:</u> • Digitise around the curtilage of properties (i.e. boundary of the garden as well as property), including any hardstanding areas – e.g. car parks. • For caravan/camping sites, digitise around the boundary of the field in which they are sited, and count the number visible to input into the attribute table in the geodatabase. • For settlement that continues beyond the edge of the sample square, a false boundary must be drawn along the edge to close the polygon. • If any one settlement is split by a road, a polygon will still be drawn around the settlement in its entirety. However, if it is split by a distance of more than a road, the settlement was divided into more than one polygon.						

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	• For visible outbuildings, beyond the curtilage of a property, i.e. within a neighbouring field, digitise around the outbuilding only. Do not include fields as these will be accounted for in the field pattern layer. • For a large area of settlement digitise around the whole settlement, including any hardstanding areas or car parks (digitise around free standing car parks as 'permanent development' also).						
	<u>Calculations:</u> A field should be added to the attribute table for area calculations, with the 'calculate geometry' function used to give areas in hectares. Intersection of the created shapefile with the LMU boundary shapefile gives the sample square calculations arranged by LMU. The mapped settlement and area calculations provide the baseline against which future results can be compared (e.g. by overlaying future mapping from aerial photographs in GIS to show the location of any new development).						
2.8: Transport infrastructure	**Purpose of indicator:** *To monitor changes, including through traffic calming measures, that impact on the special character of the rural road network of the AONBs.*						
	Method: Field survey of sample roads	C, T, S				■	5 years
	Refer to the separate monitoring protocol for this indicator, which seeks to involve students or members of the local community in data collection.						
2.9: Local vernacular building styles	**Purpose of indicator:** *To identify the characteristic building styles of settlements across the AONBs and monitor any changes that enhance or detract from this character.*						
	Method 1: Survey of sample settlements	C, T, S				■	5 years
	Refer to the separate monitoring protocol for this indicator, which seeks to involve students or members of the local community in data collection.						

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	Method 2: Information sharing with existing monitoring programmes	C, T					To tie in with other monitoring programme
	The Cornish World Heritage Site team are planning to monitor the characteristic streetcscapes of mining settlements. Any information sharing between the AONBs and the WHS team would work to mutual benefit (e.g. pooling resources for site surveys).						
2.10: Development at sea	**Purpose of indicator:** *To identify the presence of off-shore development visible off the coast, (including within estuaries) of the AONBs.*						
	Method: Information collection from local planning authorities	C, T, S					Annual
	Type of data: Planning records						
	Source of data: Local planning authorities						
	Data manipulation method for AONB monitoring: The AONBs should design a monitoring proforma to be sent to the relevant local planning authority, to record the location (OS grid reference), type and size of any off-shore developments approved by Defra. Local planning authorities, as statutory consultees, should be aware of any such developments. The AONBs should use grid references provided to plot the location of the development sites and any subsequent construction (as 'point data' in GIS). GIS should be used to identify sites within the following distance bands from the coastline: • Within 5 km • 5 – 10 km Information about the type and size of the development should be recorded in the attribute table.						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Calculations The total number and size of developments, within each coastal distance band, should be recorded by AONB area. This data should be used in conjunction with the 1.2 Levels of Intrusion indicator (Method 2, for the plotting of off-shore wind farms).							
3.1: Extent of covered horticultural production	**Purpose of indicator:** *To identify permanent [detracting] features related to horticultural land uses that are present in the AONB landscapes.*							
	Method: Field survey		C, T, S					5 years
	Refer to the separate monitoring protocol for this indicator, which seeks to involve students or members of the local community in data collection.							
3.2: Extent of traditional orchards	**Purpose of indicator:** *To identify and classify the locations of orchards where traditionally present in the AONB landscapes.*							
	Method: Aerial photographic interpretation guided by local datasets		C, T					5 years (or date of next photos)
	Type of data:	Aerial photographs (digitised) GIS shapefile (layer format)						
	Data source and year:	Aerial photographs: Cornwall and Devon County Councils (2005); Isles of Scilly – Natural England (1996) Orchard datasets: a) Cornwall County Council (2002) b) Tamar Valley AONB (2002)						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Scale and resolution of photographs	25cm resolution; 1:10,000 scale (varies according to extent of zooming)						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	<u>Data manipulation method for AONB monitoring:</u> a) The dataset for Cornwall is clipped to the sample square shapefile to display the locations of orchards within the LMU's sample squares. b) The Orchard category is extracted from Tamar Market Gardening dataset and clipped to the sample squares dataset to produce a new shapefile. No similar shapefiles are available for the Isles of Scilly, which relied on aerial photographic interpretation alone. This concentrated on the sample square on St Mary's for which orchards have been identified as landscape features through the published landscape assessments. Aerial photographs are added to the data frame to be used to classify created orchard polygons into three different categories, guided by the locations shown on the orchards dataset (see guidelines below): • Managed • Derelict • Modern Polygons are deleted from the clipped shapefile if, from looking at the aerial photos, the area defined is clearly no longer an orchard.							
	<u>Image interpretation – key guidelines:</u> The guidelines used to classify orchards from the aerial photgraphs are as follows: <u>Managed:</u> Separate trees identified with pastoral land use underneath <u>Derelict:</u> Closed canopy with overgrown understorey (e.g. scrub)							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Modern: Small trees ('bush' varieties) spaced in a regular pattern							
	Calculations: The 'calculate geometry' function is used to give areas in hectares. Intersection of the created shape file with the LMU boundary shapefile gives the calculations arranged by LMU. The mapped orchards and area calculations provide the baseline against which future results can be compared (e.g. through overlaying future mapping from aerial photographs in GIS to show the location of any new, or changed status of, orchards).							
3.3: Presence of traditional livestock types	**Purpose of indicator:** *To identify and monitor the balance of livestock types across the AONB landscapes*							
	Method 1: Analysis of nationally available statistics		C, T, S		■			
	Type of data:	National statistics						
	Data source and year:	Defra June Agricultural Census (2007)						
	Units of measurement:	Livestock numbers						
	Programme used for analysis	Excel						
	Data manipulation for AONB monitoring: Defra's York office should be contacted to provide analyses of the Agricultural Census data by AONB area (see 2.1), but only for the AONB Areas that contain LMUs selected for this indicator. This choice of LMU is based on the presence of large areas of unimproved habitat used for rough grazing (the uplands and Isles of Scilly). Data should be collected for the following categories (total livestock numbers): • Beef cows that have calved > 2yrs • Dairy cows that have calved > 2yrs • Total sheep and lambs • Other (combining 'total pigs', 'total poultry' and 'other livestock').							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Limitations of this data: Due to data protection and issues of confidentiality, the agricultural statistics are not fully represented for some of the smaller AONB areas and much of the Isles of Scilly. Therefore this data should be used to give an overall impression of agricultural land use (and future key trends), but should always be backed up by more local data under Method 3.							
	Method 2: Analysis of support scheme take-up		C, T, S			■		
	Type of data:	GIS shapefile						
	Data source and year:	Defra HLS option dataset (2007)						
	Units of measurement:	Number of agreements, area (ha)						
	Programme used for analysis	ESRI ArcMap 9.2						
	Data manipulation for AONB monitoring: The Defra shapefile is clipped to the LMU boundary shapefile to obtain information on agreements lying only within the selected LMUs for this indicator (delete rows for other LMUs where appropriate).							
	Calculations: Information on the number of agreements and the total area they cover should be recorded, by LMU. Future analyses of this data can be used to ascertain changes to scheme coverage.							
	Limitations of this data: As with Method 1 for this indicator, this data should only be used as an indicative guide to the use of traditional livestock types within LMUs – bearing in mind the current low coverage of HLS agreements across the AONBs. Method 3 should be used to bring more local detail to the monitoring of this indicator.							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	Method 3: Sample farm survey		C, S, T			**S**		
	Type of data:	Primary(questionnaire survey)						
	Scale:	Sample squares (Cornwall and Tamar) (1 farm in each sample square); LMU (Isles of Scilly)						
	Units of measurement	Numbers of livestock by type						
	Programme used for analysis:	Excel						
	<u>Data manipulation method for AONB monitoring:</u> To add a more local perspective to the AONB area statistics under Method 1, questionnaires should be circulated to farms within the sample squares of selected LMUs (one in each sample square). The AONBs should prepare a survey pro-forma sheet, roughly following the categories analysed from the June Agricultural Census to allow ease of comparison. Information on livestock breeds used should also be gathered, splitting by 'hardy' and 'commercial' breeds where possible. For the Isles of Scilly, information can also be gathered from major land owners and managers, particularly the Duchy (for their tenant farmers) and Isles of Scilly Wildlife Trust (for their own holdings). Repeat surveys should use the same questions to allow accurate monitoring of livestock farming changes.							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
3.4: Field boundary condition and species	**Purpose of indicator:** *To assess the condition of characteristic field boundaries found across the AONB landscapes*							
	Method: Field survey		C, T, S				■	5 years
	Refer to the separate monitoring protocol for this indicator, which seeks to involve students or members of the local community in data collection.							
3.5: Extent [and condition] of designed landscapes	**Purpose of indicator:** *To monitor the presence and extent of designed landscapes where they are characteristic features of the AONB landscapes, and assess their landscape condition where possible.*							
	Method 1: Mapping of nationally available dataset		C, T, S			■		5 years
	Type of data:	GIS shapefile						
	Data source and year:	Register of Parks and Gardens of Special Historic Interest (2006, English Heritage)						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						
	<u>Data manipulation method for AONB monitoring:</u> The RPG shapefile is clipped to the LMU boundary dataset to pull out the location of designed landscapes within the AONBs. As a separate task, the RPG shapefile is intersected with the AONB shapefile to display the full extent of the designed landscapes that have land within the AONBs.							
	<u>Calculations:</u> The first clipped shapefile is intersected with the LMU boundary shapefile, and an area field added to calculate the area of land in hectares falling within the LMUs selected for this indicator (any other rows deleted) – using the 'calculate geometry' tool. Separately, area							

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	calculations are made for the total area of designed landscapes that intersect with the LMUs selected for this indicator. Again, any surplus rows for 'non-target' LMUs are deleted.							
	Method 2: Information sharing with existing monitoring programme		C, T, S					To tie in with other monitoring programmes
	Data manipulation method for AONB monitoring: A condition monitoring programme is being developed nationally by English Heritage (the *Landscapes at Risk* programme, due for its first reporting in July 2008). The AONBs should seek to tap into this work to obtain monitoring information on the condition of designed landscapes identified for AONB monitoring. Any information sharing would work to mutual benefit (e.g. pooling resources for site surveys).							
3.6: Extent of bare mining spoil	**Purpose of indicator:** *To monitor the presence of mining spoil as a characteristic landscape feature of areas of the AONBs associated with mining heritage.*							
	Method: Aerial photographic interpretation		C, T					5 years (or date of next photos)
	Type of data:	Aerial photographs (digitised)						
	Data source and year:	Cornwall County Council (2005) Devon County Council (2005)						
	Scale and resolution of photographs	25cm resolution; 1:10,000 scale (varies according to extent of zooming)						
	Units of measurement:	Hectares						
	GIS programme used for analysis:	ESRI ArcMap 9.2						

Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
	Data manipulation method for AONB monitoring: A new feature class is created within the project's geodatabase (polygon). The sample squares within the LMUs selected for this indicator are checked for the presence of visible mining spoil on the aerial photos, with cross reference to the Historic Landscape Characterisation (1994) where it is not clear from the photographs (the 'Industrial Disused' landscape type). Areas of visible spoil are digitised – using the guidelines below.						
	Image interpretation – key guidelines: • Spoil should only digitised where it is clearly visible and free from successional vegetation (indicated by brown/green patches) – see example at the end of this table. • All areas of visible spoil are digitised, regardless of size.						
	Calculations: The 'calculate geometry' function is used to give areas of bare spoil in hectares. Intersection of the created shapefile with the LMU boundary shapefile gives the sample square calculations arranged by LMU.						
3.7: Presence of navigation marks	**Purpose of indicator:** *To check for the presence/absence of distinctive lighthouses and daymarks as key features of the AONBs' coastal landscapes.*						
	Method: Interpretation of Navigation Charts	C, S			■		5 years
	Type of data: — Navigation charts						
	Data source and year: — Admiralty Leisure (various dates 2001-2007)						
	Units of measurement: — Presence/absence						
	Data manipulation method for AONB monitoring: Where the presence of navigation marks has been identified as a key feature of the LMUs (either through stakeholder consultation or published landscape assessments), the navigation charts are used to pinpoint their location, categorised as 'lit' or 'unlit', with grid references						

Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
	provided from the navigation charts if felt the name alone would not be adequate to pinpoint their locations (NB this was not done for the baseline).							
	Calculations: Navigation charts should be reviewed at five-yearly intervals to check for the continued presence of marks identified at baseline survey stage.							
3.8: Levels of fishing industry activity	**Purpose of indicator:** *To monitor the levels of fishing industry activity at traditional fishing harbours identified as key features of coastal areas of the AONBs.*							
	Method: Analysis of Harbour Authority records		C, S			■		5 years
	Type of data:	Harbour Authority Census records						
	Data source and year:	Cornwall Sea Fisheries Survey (2006) Isles of Scilly Council Records						
	Units of measurement:	Number of fishing vessels						
	Programme for analysis	Esri ArcMap 9.0						
	Data manipulation method for AONB monitoring: Census results for each harbour are categorised by LMU with information recorded only for those ports/harbours in LMUs for which this indicator is selected. For display purposes, a point shapefile is created in GIS, organised by harbour. The attribute table should include a column for populating the number of active fishing fleets from the obtained records. A symbology can then be selected to display these graphically (e.g. the size and colour of the 'blob' indicating total numbers of active fishing vessels).							
	Calculations: The numbers of active fishing fleets are recorded by harbour, organised by LMU.							

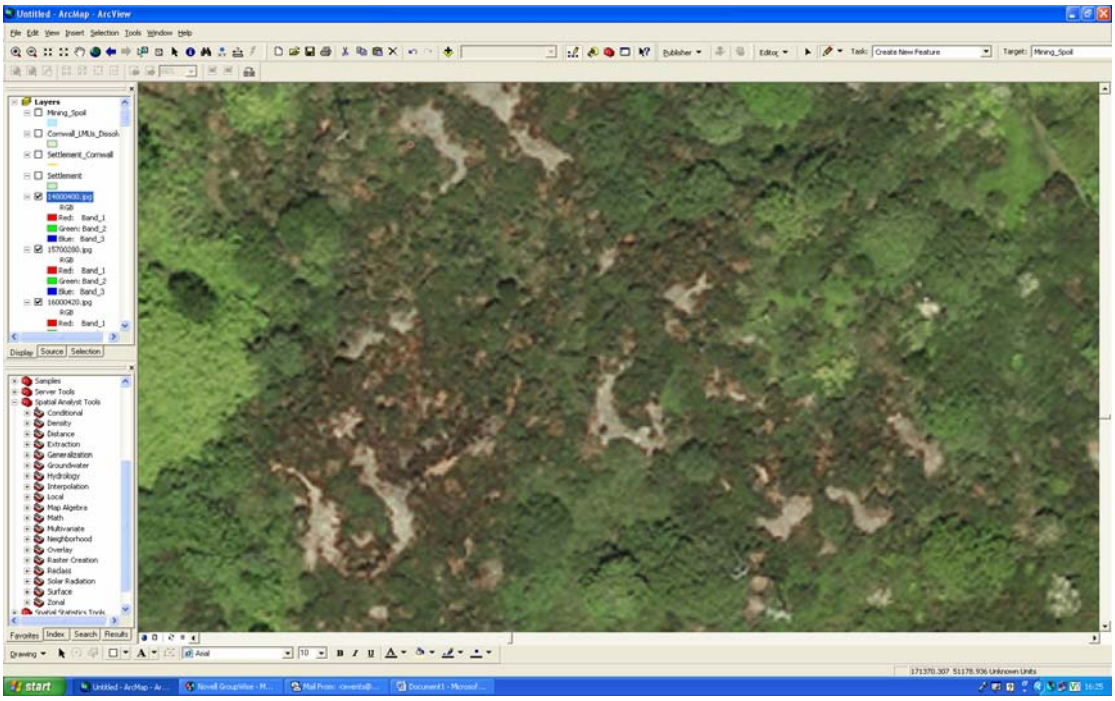
Indicator	Monitoring Protocol	Applicable AONBs	Monitoring scale				Monitoring frequency
			AONB	AONB area	LMU	Sample	
3.9: Number of moorings	**Purpose of indicator:** *To monitor the locations and numbers of moorings in coastal/estuary areas of the AONBs.*						
	Method: Collation of Harbour Authority records	C,T, S		■			5 years
	Data manipulation method for AONB monitoring: Census results for each harbour are categorised by LMU with information recorded only for those ports/harbours in LMUs for which this indicator is selected. For display purposes, a point shapefile is created in GIS, organised by harbour. The attribute table should include a column for populating the number of active fishing fleets from the obtained records. A symbology can then be selected to display these graphically (e.g. the size of the 'blob' indicating total numbers of active fishing vessels).						
	Calculations: Records should be revisited at 5-yearly intervals. Excel could be used to produce graphical representation of any changes.						
3.9: Number of moorings	**Purpose of indicator:** *To monitor the locations and numbers of moorings in coastal/estuary areas of the AONBs.*						
	Method: Collation of harbour authority records	C, T, S		■			5 years
	Type of data: — Harbour Authority records						
	Data source and year: — Various (see baseline tables)						
	Units of measurement: — Number of moorings						
	Data manipulation method for AONB monitoring: Mooring numbers are arranged by AONB area and constituent LMU(s), with information on specific locations noted. Information should be gathered only for those LMUs/AONB areas identified for this indicator.						
	Calculations: Records should be revisited at 5-yearly intervals. Excel could be used to produce graphical representation of any changes.						

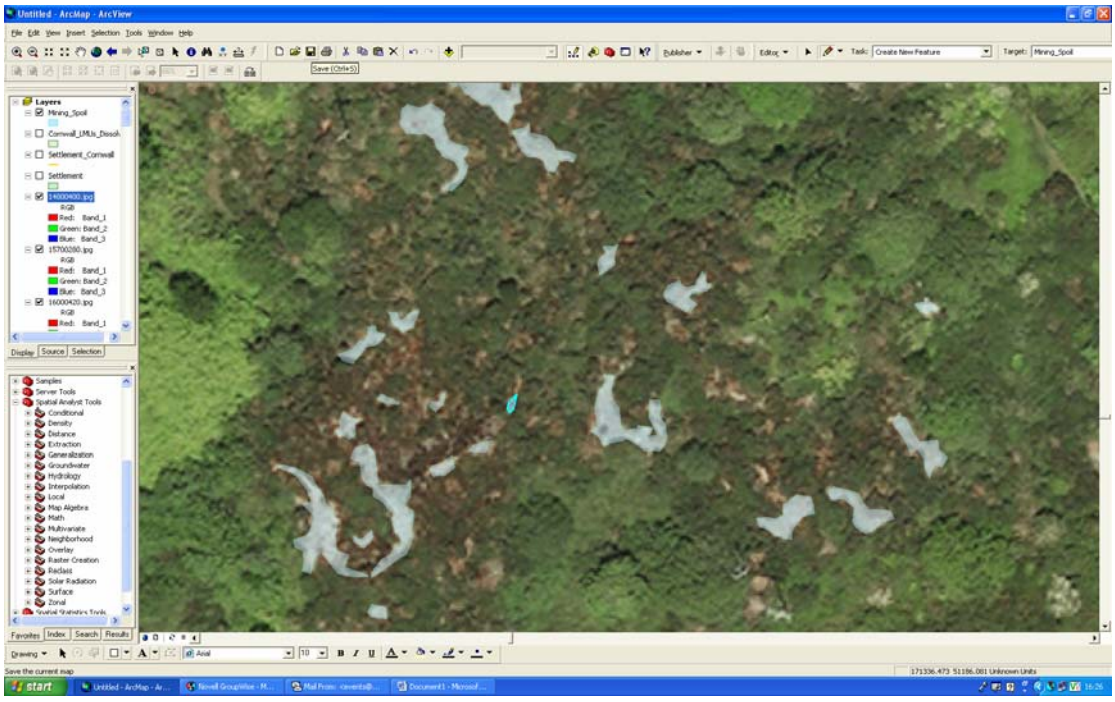
Indicator	Monitoring Protocol		Applicable AONBs	Monitoring scale				Monitoring frequency
				AONB	AONB area	LMU	Sample	
3.10: Presence of local car and passenger ferries	**Purpose of indicator:** *To monitor the presence/absence of ferries at traditional crossing points within the AONBs.*							
	Method: Review of ferry timetables		C, T		■			5 years
	Type of data:	Timetables						
	Data source and year:	Various, mainly web-based (see baseline tables)						
	Units of measurement:	Number of ferry crossings						
	Data manipulation method for AONB monitoring: Information should be gathered using ferry timetables to record the number of crossings (accounting for seasonal variations) and the route of the ferries. Data should only be collected for the LMUs/AONB areas for which this indicator has been selected.							
	Calculations: Records should be revisited at 5-yearly intervals. Excel could be used to produce graphical representation of any changes to the number of ferries and crossings.							

3.6: EXTENT OF MINING SPOIL – AERIAL PHOTOGRAPHIC INTERPRETATION

Example of the level of detail in which mining spoil has been digitised from the aerial photographs.

The more obvious grey/brown patches have been digitised, and not more browny/green patches which indicate vegetation colonisation.





2.8 TRANSPORT INFRASTRUCTURE: MONITORING PROTOCOL

1) Purpose of the Transport Infrastructure indicator

This indicator aims to monitor changes, including through traffic calming measures, that impact on the special character of the rural road network of the AONBs.

2) Means of data collection	Field survey
3) Participants in data collection	Students or community members
4) Time of year for survey	Autumn / winter (off-peak)
5) Frequency of monitoring	5-yearly
6) Scale of survey	Sample squares (max 2 per LMU as already identified)
7) Length of features to survey	Approximately half the length of C- and unclassified roads per sample square (2 – 3 separate sections of road maximum which in combination cover the different parts of the sample square). One length of road to be on a settlement edge or other area likely to be subject to pressure for traffic calming measures / road engineering. Once the baseline is laid down, the same lengths of road should be the subject of future monitoring. It is therefore critical that each length of road is clearly and accurately identified, so that it can be revisited in five years time.
8) Definitions used	N/A
9) Survey method	See survey proforma (overleaf)
10) Equipment requirements	GPS recorder Tape measure Clip board Digital camera
10) Means of data collation	Input survey results into an Excel spreadsheet – one sheet per LMU, broken down within the sheet by sample square and road section.

SURVEY PROFORMA: 2.8 TRANSPORT INFRASTRUCTURE

Surveyor name: _____	**Date of survey: (DD/M/YY)** _____	
Location information		
LMU code *Enter code:* _____	**Sample square reference** *Enter reference:* _____	**GPS location** *Start of section:* _____ *End of section*: _____
Basic road information		
Average width *Enter approximate to nearest metre:* _____	**Length of section surveyed:** *This can be worked out using the GPS readings afterwards* _____	**Depth of road (if sunken)** *Measure from road level to top of bank (average metres)* _____
Road markings (circle where appropriate)	**Measure**	**Photo numbers**
Central road markings	*Length (m):*	
Words (e.g. “SLOW”)	*Number:*	
Coloured tarmac	*Number of sections:*_____ *Total length (m):* _____	
Road engineering (circle where appropriate)	**Measure**	**Photo numbers**
Concrete kerbing	*Length (m):*	
Formed pavements	*Length (m):*	
Traffic calming measures (e.g. bollards, islands, road narrowing)	*Describe (including total of each):*	
Road lighting (circle where appropriate)	**Measure**	**Photo numbers**
Lamp posts	*Total number:* _____ *Distance between (m):* _____	
Lit signs (indicate if speed controlled LED signs)	*Number:*	

Surveyor name: _____	**Date of survey: (DD/M/YY)** _____	
Road signage (circle where appropriate)	**Measure**	**Photo numbers**
Official highway signs a) Speed limits b) Directions/place names c) Hazards	*Total number by type* *a)*_____ *b)*_____ *c)*_____	
Private signs	*Total number:*	
Finger posts (road direction signs)	*Number:*	
Milestones	*Number:*	
Other (state)	*Number:*	

Any other observations:

_____
_____
_____
_____
_____
_____
_____

3.1 EXTENT OF COVERED HORTICULTURE: MONITORING PROTOCOL

1) Purpose of the Covered Horticulture indicator

This indicator aims to identify permanent and semi-permanent [detracting] structures related to horticultural land uses that are visually prominent in the AONB landscapes.

2) Means of data collection	Field survey
3) Participants in data collection	Students or community members
4) Time of year for survey	May-October (peak horticultural season)
5) Frequency of monitoring	5-yearly
6) Scale of survey	Sample squares (max 2 per LMU as already identified which include known areas of horticultural production).
7) Coverage of survey	Whole sample square, with likely locations of horticulture pinpointed by the AONBs (surveyor briefed prior to site visit).
8) Definitions used	See below
9) Survey method	See survey proforma
10) Equipment requirements	Ordnance survey or printed map with sample square boundary marked (1:25K scale) GPS recorder Coloured pencils/highlighters Clipboard
10) Means of data collation	GIS digitisation of the approximate location of features (as 'points'), distinguishing between the two types of structure. Information in the linked attribute table on the key viewpoints each structure is visible from; its condition; and any other information recorded from the site survey.

Key definitions

Polytunnel: A metal framed tunnel covered in polyethyline used to grow crops requiring a higher temperature / humidity than what is available in the outside environment.

Glasshouse / greenhouse: A metal or wooden framed structure with clear glass (or plastic) panes, used for crop cultivation in a temperature controlled, protected environment.

Derelict: A structure which is no longer in use, indicated by overgrown vegetation within or around it, broken or ripped coverings, and location within land no longer used for agriculture.

In use: A structure which is clearly in use, indicated by the presence of crops inside (if visible), location within an active farmed landscape, and an intact structure with no broken or ripped coverings.

SURVEY PROFORMA: 3.1: COVERED HORTICULTURE

Surveyor name: _____	**Date of survey: (DD/MM/YY)** _____	
Location information		Photograph numbers and their OS reference
LMU code *Enter code:* _____	**Sample square reference** *Enter reference:* _____	**Photo / grid reference** _____/_____ _____/_____ _____/_____ _____/_____ _____/_____ _____/_____ *Any more use separate sheet*
Presence of horticultural structures		
Instruction to surveyor: Drive around the sample square to get an initial idea of the key locations of horticultural structures visible from the roads. Once key locations have been pinpointed, walk sections of roads and rights of way and mark on a map the approximate location of any visible structures (using the coding detailed below), highlighting which public routes each is visible from (GPS can help pinpoint exact locations). Photographs can be taken for reference and recorded above. Collect information as follows:		
Glasshouses/ greenhouses	Total number in sample square: _____ Derelict (total): _____ *Mark these with a 'D' on map* In use (total):_____ *Mark these with a 'U' on map*	Record approximate location of each (OS grid reference) using map or GPS recorder if able to access the exact location (if on public access land). !)_____ 2)_____ 3)_____ 4)_____ 5)_____ 6)_____ 7)_____ 8)_____ 9)_____ 10)_____ *Any more use separate sheet*

Surveyor name: _____	**Date of survey: (DD/MM/YY)** _____	
Polytunnels (distinguish on the map between those with clear plastic and black plastic)	Total number in sample square: _____ Derelict (total): _____ *Mark these with a 'D' on map* In use (total):_____ *Mark these with a 'U' on map*	Record approximate location of each (OS grid reference) using map or GPS recorder if able to access the exact location (if on public access land). !)_____ 2)_____ 3)_____ 4)_____ 5)_____ 6)_____ 7)_____ 8)_____ 9)_____ 10)_____ *Any more use separate sheet*

Any other observations:

_____
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3.4 FIELD BOUNDARY CONDITION AND SPECIES: MONITORING PROTOCOL

1) Purpose of the Field Boundary Condition indicator

This indicator aims to assess the condition of characteristic field boundaries found across the AONB landscapes.

2) Means of data collection	Field survey
3) Participants in data collection	Students studying towards a geography-related /botany / environmental sciences discipline with fieldwork experience
4) Time of year for survey	May-September (when trees are in leaf)
5) Frequency of monitoring	5-yearly
6) Scale of survey	Sample squares (max 2 per LMU as already identified with a strong field boundary character[2]). It is important that future surveys re-visit the same sample squares to allow for accurate monitoring.
7) Coverage of survey	Whole sample square – if this proves too resource and time intensive in initial surveys, some sample squares could be spit with only 500m² being surveyed (one quarter of the square). The chosen quarter must be identified.
8) Definitions used	See below
9) Survey method	See survey proforma
10) Equipment requirements	Ordnance survey (or printed) map with sample square boundary marked (1:25K scale) GPS recorder Tape measure Coloured pencils/pens Clipboard Digital camera Field guide (for species identification)
10) Means of data collation	GIS digitisation of surveyed field boundaries (as polylines), with colouring for different types and information in the attribute table on other features recorded.

[2] Note that this indicator has been selected for LMUs across the AONBs that have either: a) a specific field boundary type found in few other locations; or b) contain field boundary types that are representative of other areas of the AONB, and could therefore act as indicators for boundary condition on a broader locational scale. The AONB teams may decide to extend the field survey to other LMUs if felt appropriate and resources allow.

Key definitions

Node: A junction with another boundary or a significant change in direction. Boundaries are surveyed as internodal sections.

Internodal: Section of boundary surveyed between nodes.

Cornish hedge / Devon hedgebank (continuous): Traditional stone-faced or bare earth/grassy banks either topped with vegetation (hedgerows, trees or other vegetation) or free from topping vegetation. Category includes the unique granite 'hedges' of West Penwith (see protocol developed for the ESA appended to this protocol). No gaps other than specifically designed gateways, stiles and other openings. Banks with shallow gaps of not more than one quarter of the hedge height are included in this category, if their lengths do not constitute greater than 10% of the continuous internodal hedge length. .

Cornish hedge / Devon hedgebank (non-continuous): Traditional stone-faced or bare earth/grassy banks either topped with vegetation (hedgerows, trees or other vegetation) or free from topping vegetation. Category includes the unique granite 'hedges' of West Penwith. Hedges with gaps other than specifically designed gateways, stiles and other openings, or where a single or series of shallow gaps of not greater than one quarter of the wall height constitute greater than 10% of the total internodal hedge length.

Hedgerow (continuous): Continuous internodal hedgerow with interwoven growing branches forming a dense stockproof barrier from the ground up to at least 1 metre in height, or 0.75m if recently trimmed. No other gaps other than specifically designed gateways, stiles and other openings. Hedgerows with intact canopy and not greater than 10% loss of base, or intact base and not greater than 10% of canopy in total, are included in this category (provided that no unit of loss extends to more than 2m length). Hedgerows with a canopy rising variably are also included.

Hedgerow (non-continuous): As hedgerow but with gaps other than specifically designed gateways, stiles and other openings, or where a series of base or canopy losses exceed 10% of the total length, or a unit of loss exceeds 2m in length.

Shelter hedges (Scilly) (continuous): Lines of shrubs (and occasionally trees) usually of no more than two species, traditionally planted to shelter horticultural crops. No gaps within or below the canopy other than specifically designed gateways, stiles and other openings, Hedges have an intact canopy, with no greater than 10% total loss. No unit of loss extending to more than 3 m in length.

Shelter hedges (Scilly) (non-continuous): Lines of shrubs (and occasionally trees) usually of no more than two species, traditionally planted to shelter horticultural crops. Gaps within the shelter hedge other than specifically designed gateways, stiles and other openings, or where a series of canopy losses exceed 10% of the total length, or a unit of loss exceeds 3m in length.

Wall (continuous): Continuous traditional stone and/or slate wall with no gaps other than specifically designed gateways, stiles and other openings. Walls with shallow gaps of not more than one quarter of the wall height are included in this category, if their lengths do not constitute greater than 10% of the continuous internodal wall length.

Wall (non-continuous): Traditional stone and/or slate wall with gaps other than specifically designed gateways, stiles and other openings, or where a single or series of shallow gaps of not greater than one quarter of the wall height constitute greater than 10% of the total internodal wall length. Piles of stones comprising a very derelict wall should also be categorised as non-continuous.

Other: Any other boundary surrounding a field – including fence, woodland, buildings.

SURVEY PROFORMA: 3.4: FIELD BOUNDARY CONDITION[3]

Surveyor name: _____	**Date of survey: (DD/MM/YY)** _____	**Photo numbers** _____
Location information		
LMU code *Enter code:* _____	**Sample square reference** *Enter reference:* _____	**GPS readings** (to work out length of section) *Start of internodal:* _____ *End of internodal:* _____ *Total length of internodal: (m):* _____
Instruction to surveyor: *Wherever possible, survey each length of boundary (internodal) from a road, public right of way or open access land. If this is not possible for all boundaries, the landowner should be contacted by the AONB to obtain access permission. Use colour coding to mark on the map boundaries falling within the main categories below. Complete a new form for each internodal surveyed.*		
Boundary category (circle which is appropriate)	**Boundary features**	**Additional information** (e.g. extra detail on classification, location of different features)
Cornish hedge (continuous) *Green coding (solid line)*	**Topping vegetation (circle):** *Hedgerow (state main two species):* _____ *Trees (state main two species):* _____ *Gorse / bracken /scrub (circle)* *Grass / wildflowers (circle)* *None (bare earth / stone) (circle)* *Other (state):* _____ **Stone facing (circle):** *YES / NO* **Protective fencing (circle):** *YES / NO*	

[3] Note the AONBs can modify this proforma to only include boundary types likely to be found in their areas (but always include the 'other' category).

Surveyor name: _____	**Date of survey: (DD/MM/YY)** _____	**Photo numbers** _____
Boundary category (circle which is appropriate)	**Boundary features**	**Additional information** (e.g. extra detail on classification, location of different features)
Cornish hedge (non-continuous) *Green coding (dashed)*	**Topping vegetation (circle):** *Hedgerow (state main two species):* _____ *Trees (state main two species):* _____ *Gorse / bracken /scrub (circle)* *Grass / wildflowers (circle)* *None (bare earth / stone) (circle)* *Other (state):* _____ **Stone facing (circle):** *YES / NO* **Protective fencing (circle):** *YES / NO*	
Devon hedgebank (continuous) *Blue coding (solid line)*	**Topping vegetation (circle):** *Hedgerow (state main two species):* _____ *Trees (state main two species):* _____ *Gorse / bracken /scrub (circle)* *Grass / wildflowers (circle)* *None (bare earth / stone) (circle)* *Other (state):* _____ **Stone facing (circle):** *YES / NO* **Protective fencing (circle):** *YES / NO*	

Surveyor name: _____	**Date of survey: (DD/MM/YY)** _____	**Photo numbers** _____
Boundary category (circle)	**Boundary features**	**Additional information** (e.g. extra detail on classification, location of different features)
Devon hedgebank (continuous) *Blue coding (dashed line)*	**Topping vegetation (circle):** *Hedgerow (state main two species):* _____ *Trees (state main two species):* _____ *Gorse / bracken /scrub (circle)* *Grass / wildflowers (circle)* *None (bare earth / stone) (circle)* *Other (state):* _____ **Stone facing (circle):** *YES / NO* **Protective fencing (circle):** *YES / NO*	
Wall (continuous) *Red coding (solid line)*	**Material (circle):** Stone *(please state e.g. granite)* _____ Brick	
Wall (non-continuous) *Red coding*	**Material (circle):** Stone *(please state e.g. granite)* _____ Brick	

Surveyor name: _____	**Date of survey: (DD/MM/YY)** _____	**Photo numbers** _____
Boundary category (circle)	**Boundary features**	**Additional information** (e.g. extra detail on classification, location of different features)
Shelter hedge (continuous) (Scilly) *Orange (solid line)*	**Main two shrub species (circle):** *Pittosporum* *Tamarisk* *Coprosma* *Cordyline* *Elm* *Escalonia* *Euonymus* *Hebe/hedge Veronica* Other (state): _____ **Height classification (circle)** 50% or more of internodal is: *3 m or less* *Over 3 metres*	
Shelter hedge (non-continuous) (Scilly) *Orange (dashed line)*	**Main two shrub species (circle):** *Pittosporum* *Tamarisk* *Coprosma* *Cordyline* *Elm* *Escalonia* *Euonymus* *Hebe/hedge Veronica* Other (state): _____ **Height classification (circle)** 50% or more of internodal is: *3 m or less* *Over 3 metres*	
Other boundary	**Please state type of boundary:** _____	

WEST PENWITH ESA HEDGE MONITORING PROTOCOL

1. This is a summary document detailing the ESA monitoring programme for West Penwith's distinctive stone hedges. It is for reference purposes for Cornwall AONB to understand how the ESA is itself monitoring these landscape features.

Background

2. The West Penwith ESA was designated in1987. Due to pressures on farmers to intensify their agricultural production, hedges were being bulldozed out, and stone was being sold for building projects out side the area. Heathland was being broken in to increase the pasture area for larger numbers of stock. This was having an immediate and lasting effect on this very important historical landscape.

3. The hedges in West Penwith are unlike those seen in a typical English landscape. They are not planted hedges of black thorn, buck thorn or other woody species. They are generally 'Cornish Hedges'. These are stone built with ' rab' or an earth core and turf on the top. Hedge styles vary with some very old, dating back to the Bronze and Iron ages. These may be a line of large boulders that were often found in situ and formed the basis of a hedge. These Zig-zagging boundaries form the typical small fields. These older hedges may appear at first sight to be poorly maintained as they can appear slumped and a level top is rarely seen . But this would be expected over such a long time. Our archaeological advisers prefer us not to carryout renovations on these very old hedges as it would not be appropriate as the historical merit could be destroyed. It is important to remember that many of the hedges seen will be as old as the Pyramids in Egypt and are still in regular use to retain stock.

4. Most of the hedges in the ESA are the traditional Cornish hedge. There are also stone walls built in the nineteenth century, the biggest concentration is in the Morvah area. Some hedges in less exposed areas will have some vegetation on top, black thorn etc. These are likely to be the only ones that are protected under the existing hedgerow legislation. These are protected as they have the required number of woody species. But in my view, as someone who has walked and inspected every hedge in the ESA area, the proportion covered by this legislation would probably be less that 10%.

Stock-proof / non- stock- proof designation

5. When individual ESA agreements were set up, a survey of all the boundaries on the holding was carried out. They would be classed in one of two categories : Stock –proof or Non -stock-proof and mapped as red or blue respectively.

6. The definition of a stock-proof hedge refers to the ability of the hedge to retain stock customary to the area. In West Penwith, this would refer to a

hedge that would retain a Guernsey cow, as these were the commonest stock when the area was designated. There will be times when repairs are needed. If a hedge in the stock- proof category has a gap, it does not automatically go into the non-stock-proof category. This hedge repair would then become part of that farmers regular hedge maintenance programme as required under the ESA Scheme.

7. The definition of non-stock-proof, obviously refers to those hedges that are unable to retain a Guernsey cow. Throughout the area there are a large number of these, both on farms, and amongst the rough grazing areas. These are often remnant hedges from abandoned field systems, most of which retain strong historic merit and are best left as they are and not upgraded to stock- proof.

8. A desk exercise in 1998 indicated that throughout the ESA (approx. 8600 ha) there are 1200 miles of stock-proof hedge and 800 miles of non-strock-proof hedge. The very small field size averaging 0.4 ha having a large influence.

9. The hedges are monitored regularly by the ESA Project Officers and RPA inspectors.

Peter Bowden
Team Leader
Land Management
Cornwall and Isles of Scilly
May 2008.

2.9: LOCAL VERNACULAR BUILDING STYLES: MONITORING PROTOCOL (NOTES ONLY)

This document should be used by the AONBs to develop a full monitoring protocol for the 2.9: Local Vernacular Building Styles indicator.

The purpose of this indicator is: *To identify the characteristic building styles of settlements across the AONBs and monitor any changes that enhance or detract from this character.*

SUGGESTED APPROACH

1) Locations: Take at least one main settlement within each sample square (where settlement is present).

2) Identifying local vernacular styles: Using the Cornwall Historic Landscape Assessment as a starting point (and the Isles of Scilly Design Guide in the case of the Isles of Scilly), hold a workshop(s) of local specialists to identify the main local vernacular styles and building materials prevalent in:

Cornwall North Coast
Cornwall South Coast
West Penwith
Bodmin Moor
Tamar Valley
Isles of Scilly

Those invited to the workshop might include: local authority building conservation officers; English Heritage; Rural Buildings Preservation Trust; representatives of local heritage trusts.

Specifically, the workshop should seek to identify:

- the local vernacular styles in each of the areas identified above
- associated building materials
- colour wash (if used)
- typical issues detracting from the traditional local character of settlements e.g. modern developments using modern building materials; modern fenestration, re-roofing, rendering; modern boundary features.
- Opportunities e.g. use of new sympathetic building materials, especially those responding to energy conservation

3) Enlisting volunteers: Identify local community groups willing to undertake / organise a survey of local vernacular styles within their village – these could be identified through the workshop(s).

4) Survey approaches: Building on other mapping approaches that have been developed (such as through the Local Heritage Initiative) one or two of three

alternative approaches could be developed. In any event different approaches will need to be developed for larger settlements (such as Polruan and Fowey) compared to smaller settlements of 200 dwellings or less. These suggested approaches are:

a) Larger settlements: For these, the approach adopted will probably need to be limited to:

- Identifying the boundaries of: the historic core; Victorian and Edwardian villa development; interwar development; and post war development
- Providing a general description of each zone
- Survey two streets within each zone, following the approach set out below for the smaller settlements.
- Identifying the main issues and opportunities associated with each zone

b) Smaller settlements: Potentially one of two approaches could be adopted, both using a simple proforma, as set out below. As one alternative this proforma could be completed for each dwelling by a small survey team. Alternatively individual householders could be asked to complete the proforma returning it to the survey team (this was the approach adopted in the Cartmel Local Heritage Initiative). In either case the approach could be developed as an adjunct to preparing a Village Design Statement (VDS) / Parish Plan, with ongoing monitoring also providing monitoring of the implementation of the VDS / Parish Plan. In either event the local survey team would need to be responsible for building up a data base of dwelling character.

2.9: LOCAL VERNACULAR BUILDING STYLES – FRAMEWORK FOR A SURVEY PROFORMA[4]

Surveyor name: _____	**Date of survey: (DD/M/YY)** _____
Location information ***(to be filled in by the AONB prior to the survey)***	
LMU code *Enter code:* _____	**Sample square reference** *Enter reference:* _____
Dwelling type and date	
Building type (circle) *Detached* *Semi-detached* *Terrace* *Purpose-built apartment block* *Other (state)* _____	**Approximate date (circle):** *Pre-18th century (state if Georgian):* _____ *Victorian* (1830s to 1900) *Edwardian* (1901 to 1915) *Interwar* (1918 to 1939) *Post-war* (1940 to 1980s) *Modern* (1990 – present)

Vernacular style and materials		
Vernacular style ***(to be identified through workhops):***	**Materials[5]** ***(to be identified through workshops):*** Dwelling: _____ Roof: _____ Windows: _____ Doors: _____ Garden boundary/ies: _____ Garage: _____ Other outbuildings: _____	**Colour (specify):** Walls: _____ Window frames: _____ Doors: _____

[4] The AONBs will need to develop this form following the workshops to identify the local vernacular styles characteristic to each LMU.

[5] The AONBs will need to develop the form with different options for materials (for circling by surveyor) by dwelling feature (e.g. roof, windows) based on local character identified through workshops