



**Cyfoeth  
Naturiol**  
Cymru  
**Natural  
Resources**  
Wales

**Area 3: Neath Port Talbot:  
LANDMAP Change Detection:  
Visual & Sensory Aspect  
Monitoring Report  
Final: March 2015**

Bronwen Thomas

Rev No. 3

## Contents

- 1.0. Introduction
- 2.0. Methodology
  - Stage 1: Baseline of Change
    - Stage 1a: Local Authority questionnaire findings
    - Stage 1b: Additional desk-based information
  - Stage 2: Fieldwork verification and survey completion
- 3.0. Monitoring Table Notes
- 4.0 General Approach to Recommended Amendments Relating to All-Wales Landscape Change
  - Forestry conversion to broadleaf woodland
  - Phytophthora felling
  - Windfarms
  - Single wind turbines
  - Solar farms
  - Settlement expansion
  - Coastal erosion
- 5.0 Summary of Key Changes and Influences in Ceredigion
  - Expansion/development of settlements
  - Opencast
  - Expansion of industrial estates
  - Development on former derelict land
  - Forestry
  - Windfarms
- 6.0 Monitoring Table and Figures

## 1.0 Introduction

1.1. In August 2013 Natural Resources Wales (NRW) commissioned Bronwen Thomas Landscape Architect (BTLA) to carry out stages 1, 2a and 2b of the interpretation of the LANDMAP Change Detection Packs (CDP) for the Visual & Sensory aspect covering several parts of Wales including Area 3 which includes Neath Port Talbot.

1.2. In September 2013 BTLA was commissioned to prepare and manage the Local Authority questionnaire input into Visual & Sensory Change Detection across all of Wales.

1.3. In July 2014 BTLA was commissioned to carry out field visits, complete the surveys and update the Visual & Sensory data including the on-line surveys and GIS for the parts of Wales covered in the first stages, including Neath Port Talbot.

## 2.0 Methodology

2.1. 'LANDMAP Guidance for Wales: Monitoring Landscape Change' (NRW 2014) provides a full explanation of the methodology. The tasks carried out, in brief, have been:

### Stage 1: Baseline of Change

- Creation of monitoring tables for each of the local authorities, listing aspect areas, sources of change detection and recommended amendments;
- Desk study of maps and resources supplied in the Change Detection Pack to identify aspect areas where significant landscape change is anticipated, relating to boundaries, classification, evaluation and descriptions;
- Population of relevant columns to form the Stage 1 tables, relating to the CDP resources, namely:
  1. Aspect area UID and name;
  2. Change indicated by OS data, aerial photographs and roads/buildings maps;
  3. Change indicated by complexity maps (segment density) and NDVI;
  4. Change indicated by Phase 1 and seasonal change maps;
  8. (Draft) recommended LANDMAP amendments.

### Stage 1a: Local Authority questionnaire findings

- Assessment of information derived from local authority questionnaire.
- Population of relevant columns in the monitoring table:
  5. Change indicated by LPA questionnaire
  8. Adjustments to recommended LANDMAP amendments

### Stage 1b: Additional desk-based information

- Assessment of further information requested and supplied by NRW and local authorities;
- Cross-check against Consistency Report to ensure inconsistencies have been rectified;
- Population of relevant columns of the monitoring table:
  6. Changes indicated by other resources;
  8. Adjustments to recommended LANDMAP amendments
- Preparation of summary report to provide information specific to Neath Port Talbot and give a summary of key changes and influences, with illustrations, detected at this stage.

### Stage 2: Fieldwork verification and survey completion

- Visits to aspect areas to verify significance of changes and identify additional changes;
- Population of relevant columns in the monitoring table:
  7. Change indicated by fieldwork
  8. Adjustments to recommended LANDMAP amendments
- Adjustments to monitoring table relating to feedback from LPAs and incorporation of further additional sources of information;
- Revision of summary report to take account of changes made at stage 2;
- Preliminary Quality Assurance.

### Stage 3: Updating the Visual & Sensory

- Updating all aspect area surveys as recommended in the monitoring table;
- Updating aspect area boundaries in the Visual & Sensory GIS layer;
- Revision of monitoring table and summary report to take account of changes made at stage 3;
- Quality Assurance.

## 3.0 Monitoring Table Notes

3.1 The final monitoring table has been prepared in accordance with the Technical Specifications. The following general notes provide clarity and explain any modifications.

3.2 The final table accompanies this report.

3.3. Letters (**a. b.** etc.) refer to the separate changes that have been identified in each aspect area. This allows the recommended LANDMAP amendments to relate to the different changes.

3.4. Potential changes identified at stage 2 but not substantiated by fieldwork or other later methods have been retained in the final monitoring table for the sake of transparency.

3.5. Figures taken from mapping and aerial photographs show all boundary changes and illustrate some of the amendments. These are provided with the accompanying monitoring table.

3.6. The following notes relate to each column of the monitoring table:

**Column 1:** Aspect Area UID and name.

**Column 2:** The Mastermap road and built form change mapping, and the 2001 and 2010 aerial photographs provided the most useful data for detecting possible change. It must be noted that the aerial photographs provided in the CDP do not show the most recent changes.

**Column 3:** The complexity maps and NDVI mapping identified some possible vegetation changes. In Neath Port Talbot these have not proved to be conclusive of change but have assisted in verifying change.

**Column 4:** Phase 1 habitat mapping has not been supplied. Seasonal change has not provided any further information relating to significant Visual & Sensory change.

**Column 5:** The LPA has provided feedback from the stage 2 report/table.

**Column 6:** Other resources used for Neath Port Talbot:

- Forestry mapping showing conversion from conifer to broadleaf woodland
- Windfarm mapping showing several windfarm developments in Neath Port Talbot.
- Google Earth (referenced as GE2013) provides more up-to-date aerial photographs for Neath Port Talbot.

**Column 7:** It must be noted that the fieldwork was carried out in summer 2014, approximately six months after the stage 1 monitoring table was completed, and several years after the aerial photographs were taken. Care was taken, therefore, to ensure that developments and other potential changes that appeared to be in progress at earlier stages were checked on site. Fieldwork has verified most of the changes identified.

**Column 8:** In summary, the following amendments are recommended:

- Four aspect areas require boundary changes.
- Twenty aspect areas require checking and/or amendments to survey data relating to descriptions.
- There is one recommended change to classifications and evaluations.
- One new aspect areas is recommended.

## 4.0. General Approach to Recommended Amendments Relating to All-Wales Landscape Change

4.1. The following notes provide an overview of the recommended amendments that have been applied to all areas of Wales being monitored by Bronwen Thomas Landscape Architect. Only notes that may be relevant to Neath Port Talbot are included.

### Forestry conversion to broadleaf woodland

4.2. Source: All Wales GIS mapping supplied by NRW. This maps areas of former conifer plantation that have been replanted with broadleaves since 2001 in NRW-managed forests.

4.3. Where there are considerable areas of broadleaf conversion shown on the mapping within an aspect area this is noted in column 6. However, all these areas which have been checked during fieldwork are not having any significant visual & sensory impact yet. Therefore the broadleaf conversion is noted as a trend with recommendation to continue conversions to broadleaf, and referred to in the amended summary only, especially in relation to prominent areas such as valley sides overlooking settlements (e.g. Crynant) or main transport/tourist routes (e.g. north of Rosebush in Preselis), or recreational areas (e.g. Afan Forest Park). This only applies to aspect areas which are significantly wooded, not where woodland/forestry is not a key characteristic.

### *Phytophthora* felling

4.4. Source: Comprehensive coverage of actual felling has not been made available therefore this has not been able to be included as change, except where noted as significant during fieldwork. No specific areas affected by *Phytophthora* have been detected in Neath Port Talbot.

## Windfarms

4.5. Source: All Wales GIS mapping, August 2013. This maps all consented and operational windfarms, giving name, number and heights of turbines.

4.6. Some windfarms have already been included in the Visual & Sensory data, however these surveys will be checked and may be amended, with cumulative effects being considered. Operational windfarms are included as a landscape change within the aspect area, with amendments relating to detractive views within, change to sense of place, trend, condition, recommendations. Windfarms are also considered to be making significant change to views from other aspect areas within 5km, with detractive views out. If these aspect areas are primarily forestry, or valleys without views, or facing away from the windfarm, views from these have not changed significantly. The impact of all the operational and consented windfarms have been verified by fieldwork. Where windfarms are consented but not built, amendments relate to trend and recommendations. In order to provide consistent descriptions, the landscape types identified in 'Guidance on cumulative impact of wind turbines on landscape & visual amenity: Pembrokeshire and Carmarthenshire' (White Consultants 2012) will be used. These are: wind turbine landscape; windfarm.

## Single wind turbines

4.7. Sources: LPA questionnaire. No comprehensive mapping has been available, therefore change detection has relied on LPA observations, personal knowledge and fieldwork observations.

4.8. There are many more (and larger) single or pairs of wind turbines now than at the time of the original Visual & Sensory surveys. Where there are a considerable number within an aspect area the cumulative effect may make a change to views within (detractive), trend, recommendations (e.g. parts of Pembrokeshire plateau and around Milford Haven). Where turbines are sparsely scattered and not prominent, no significant change is detected. The landscape types identified in 'Guidance on cumulative impact of wind turbines on landscape & visual amenity: Pembrokeshire and Carmarthenshire' (White Consultants 2012) will be used. These are: area with no turbines; area with occasional turbines; area with turbines. No specific changes relating to single turbine development have been detected in Neath Port Talbot.

## Solar farms

4.9. Sources: LPA questionnaire. No comprehensive mapping has been available, therefore change detection has relied on LPA observations, personal knowledge and fieldwork observations.

4.10. Solar farms tend to be thinly spread at present and not considered to be making significant visual & sensory change yet (e.g. western part of Vale of Glamorgan, eastern

parts of Pembrokeshire plateau). Fieldwork has shown that these are not prominent features from many viewpoints. These are noted and amendments will be made to trend and recommendations. No specific changes relating to solar farms have been detected in Neath Port Talbot.

### Settlement expansion

4.11. Sources: GIS Mastermap road and building change mapping, aerial photographs (2001 and 2010), plus Google Earth 2013 photography where applicable. The impacts of most of the areas of expansion have been verified by fieldwork.

4.12. As well as boundary changes around settlement aspect areas there is also encroachment on gaps between settlements which is significant in the 'busy' parts of the country such as M4 corridor and tourist areas such as Pembrokeshire and Ceredigion coast. As well as physical encroachment, there is encroachment on views with some prominent edges of settlements impacting on the adjacent rural aspect areas. Where this is significant in the rural aspect areas amendments are recommended to detractive views and trend/recommendation relating to encroachment.

### Coastal erosion

4.13. Source: The Welsh Coastal Storms, December 2013 & January 2014 – an assessment of environmental change, NRW Evidence Report 33. This report became available in September 2014, after most fieldwork had been completed. LPA feedback has identified some specific areas of change which have all been verified by fieldwork.

4.14. The acceleration of coastal erosion, in terms of Visual & Sensory landscape change, is having a significant effect on some dunes systems (e.g. Newborough on Anglesey) or necessitating new sea defences (e.g. Borth in Ceredigion) but elsewhere is less significant. Amendment recommendations to aspect areas which have had specific erosion relate to trends and recommendations. No specific changes relating to coastal erosion have been detected in Neath Port Talbot.

## 5.0 Summary of Key Changes and Influences in Neath Port Talbot

### Expansion/development of settlements:

5.1. Most development relating to settlements is within the existing aspect area boundaries. There are a few minor expansions requiring aspect area boundary changes.

### Opencast:

5.2. On the north and east rim of NPT several opencast areas appear to be changing. Much of this is change restoration (improvement), plus some extant workings progressing. Most of these areas are away from the public eye. The opencast at Kenfig Hill has extended and it is recommended that this is given a separate aspect area to be consistent with the adjacent aspect area in Bridgend.

### **Expansion of industrial estates:**

5.3. There have been additional large units added to existing industrial and business areas along the coastal area at Crumlin and Baglan which are conspicuous. The new university buildings in particular are prominent from approaches to Swansea and from the coastline on Swansea Bay.

### **Development on former derelict land**

5.4. Extensive housing development on the former Gelli-bwch works is changing the character of the landscape and parts of it are seen from the M4 and parts of Swansea.

### **Forestry:**

5.5. As well as the expected change relating to felling/replanting regimes, there are some areas where blocks of conifers have been replaced with broadleaf trees. Although some are in potentially prominent positions on valleys sides, overlooking settlements, these changes are not having a significant landscape impact yet.

### **Windfarms:**

5.6. Several windfarms are operational in Neath Port Talbot and cumulatively these are giving widespread visual effects. The large windfarm at Pen y Cymoedd, yet to be built, will have very widespread visual impact on higher ground. Overall, windfarms are becoming a defining characteristic within NPT.



## 6.0. Monitoring Table and Figures

*Italics denotes amendments required for consistency rather than significant change*

1. Aspect Area UID & name	Change indicated by: 2. OS data, Aerial photographs & Roads/Buildings	3 Complexity maps (segment density) & NDVI	4 Phase 1 & seasonal change	5 LPA questionnaire/ feedback	6 Other resources	7 Fieldwork	8 Recommended LANDMAP amendment
NPTVS001 Margam Opencast						Opencast expanded and deep	GIS: new polygon Survey: new record
NPTVS184 Ystalyfera	Expansion in south east into 286.				GE2013 shows all housing built		GIS: Boundary change with 286 Survey: Amend summary and trend to reflect expansion of settlement
NPTVS187 Mynydd Dinas	Network of re-new'd tracks on hillside overlooking M4. No apparent change on aerials.					No significant changes observed	No amendments required – no significant change
NPTVS188 Mynydd Uchaf	Renewed tracks on top. No apparent change on aerials.					No significant changes observed	No amendments required – no significant change
NPTVS226 GCG works	<b>a.</b> Not apparent on aerials. <b>b.</b> Some expansion of opencast workings on aerials.	<b>a.</b> Large areas of less productive, crossing into 149		East Pit East Revised Opencast – application under consideration April 2013	GE2013 shows some restoration in central part	No significant changes observed	Survey: Check summary, condition, trend, recommendations reflect gradual restoration
NPTVS274 Coastal Dunes(Steelworks tipping)	Margam:New tracks. Restored vegetation maturing on aerials				GE2013 shows central part restored to sand dunes	Inaccessible	Survey: Check summary, condition, trend, recommendations reflect gradual restoration of dunes
NPTVS277 Margam Moor					<i>CR - Change VS26 value to Low and match justification to VS51</i>		<i>CR done</i>
NPTVS286 Swansea valley	<b>a.</b> Ystalyfera expanded into area						GIS: Boundary change with 184 ( <b>a.</b> ) and 878 ( <b>b.</b> )

(bottom)	<b>b.</b> Pontardawe retail expanded into this aa						Survey: Amend summary and trend to reflect reduction of aa and encroachment of settlements
NPTVS357 Hirfynydd Forest	<b>a.</b> Re-newed tracks up steep zigzags. Aerials show former active opencast, now reclaimed <b>b.</b> Maesgwyn wind farm written on OS. Not apparent on aerials (2010) <b>e.</b> Aerials show all former opencast areas now completed/restored	<b>c.</b> Large areas of less/much less productive land – felling, smaller areas of more productive.		<b>b.</b> Maesgwyn windfarm built. <b>a.</b> Nant Melin/Nant Hir Opencast – aftercare. Forest Quarry Opencast Area 1 – aftercare. Forest Quarry Opencast Area 2 extension – under restoration. Nant y Mynydd Surface Mine – under restoration. April 2013	<b>b.</b> Maesgwyn windfarm consented, 13no, 119ht in north east <b>d.</b> Various areas of forestry to broadleaf including scattering along Neath valley side, and overlooking Crynant	<b>b.</b> Windfarm built, conspicuous within north part of aa and adjacent aa	Survey: Amend summary, views, SoP, sensory qualities, condition, trend, recommendations to reflect extensive opencast restoration and windfarm, plus broadleaf conversion.
NPTVS358 Foel Trawsant						Views north to Ffynnon Oer windfarm	Survey: Amend summary and views to reflect nearby windfarm
NPTVS359 Crynant Forest	<b>a.</b> Track renewal. <b>a.b.c.</b> No change apparent on aerials	<b>b.</b> Various less and more productive land, probably due to felling			<b>c.</b> Various forestry to broadleaf changes including overlooking Crynant and Ystralyfera	No significant changes observed from valley	Survey: Amend summary and trend to reflect gradual broadleaf conversion in parts.
NPTVS366 Mynydd Penhydd	Not apparent on aerials	Various small more and less productive in forestry – Afan Forest Park			Forestry to broadleaf along key routes through Afan Forest Park	No significant changes observed	Survey: Amend summary and trend to reflect gradual change to broadleaf
NPTVS400 Duffryn Cellwen	Not apparent on aerials	Less productive areas within works				No significant changes observed	No amendments required – no significant change
NPTVS465 Foel Fawr					<i>CR - Change VS26 value to Low</i>		<i>Done</i>
NPTVS518 Crumlin industry	Large new building, plus roads – Amazon warehouse			Also new University Campus – significant impact.	GE2013 shows development in progress on former gas tank area	Major new campus buildings conspicuous from main roads and coast	Survey: Amend summary, views, sensory qualities, SoP, condition, trend, recommendations to reflect major new uses
NPTVS541	Not apparent on	More productive			GE2013 shows no	No significant	No amendments required

Cefn Gwryd	aerials	land in forestry in east			apparent change	changes observed	– no significant change
NPTVS543 Coedhirwaun	Opencast in extreme east of NPT - new roads. Aerials show opencast has expanded	Opencast much less productive		Margam Opencast – requires restoration, April 2013	GE2013 shows water in west part	Opencast expanded and deep	GIS & survey: new aa (NPTVS001) to correspond with CYNONVS368. GIS: Boundary change to omit opencast new aa. Survey: Amend summary and check descriptions, views, condition, trend, recommendations to reflect omission of opencast.
NPTVS581 Mynydd Allt-y-grug	Aerials show scrambling (?) track of top				GE2013 shows additional tracks and car park (?)		Survey: Amend summary, views, sensory qualities, recommendations to reflect increase in motor activity.
NPTVS592 Gelli-bwch works	Aerials show large areas of derelict land now cleared				GE2013 shows new housing in east and loss of regenerating vegetation.	Much new housing being developed in higher eastern part.	Survey: Amend classification, survey, descriptions, views, condition, trend, recommendations to reflect restoration/development
NPTVS624 Carn caca	New tracks where wind turbines marked on OS base. Aerial show 16no. wind turbines built			Ffynnon Oer Windfarm		Windfarm set back from lips of valleys and not on highest land therefore not highly conspicuous from nearby populous areas	Survey: Amend summary, views, trend, recommendations, value matrix to reflect windfarm influence
NPTVS658 Mynydd Drumau	No apparent change on aerial				Forestry to broadleaf in north overlooking Craig Cilhendre nature reserve	No significant change observed	Survey: Amend summary and trend to reflect gradual change to broadleaf
NPTVS751 Dulais valley moorland	<b>a.</b> Not built 2010 aerials. <b>b.</b> scramble (?) track				<b>a.</b> Mynydd Marchwel windfarm:	Mynydd Marchwel Windfarm not	Survey: Amend views to Ffynnon Oer windfarm

	on aerial.				consented, 5no. 127ht. Extending into 359, 340 & 422	built. Views to Ffynnon Oer windfarm to east	
NPTVS837 Margam Works					CR - Check VS50 is Low		Done
NPTVS841 Cwmafan					CR - Change VS50 value to Low		Done
NPTVS878 Pontardawe	Retail next to river in 286 to include in this aa.					Tesco	GIS: Boundary change in south with 286. Survey: Amend summary and trend to reflect expansion of settlement
NPTVS920 Cwm Afan and Cwm Pelenna farmed sides						Views north to Ffynnon Oer windfarm	Survey: Amend summary and views to reflect nearby windfarm
NPTVS951 Bryn Mawr – Mynydd Carnllech	Renewed tracks on Mynydd Gellionnen. Aerials show no apparent change					No significant changes observed	No amendments required – no significant change
NPTVS960 Baglan industry	Large new building. Aerials show various clearances of chimneys, buildings, etc. and new buildings			This is Intertissue Factory. Also other new developments – power station, council offices & associated buildings.		Network of roads and much development	Survey: Amend summary, views, sensory qualities, condition, trend, recommendations to reflect restoration/development
NPTVS962 Mynydd nant-y-bar	<b>a.</b> Felling confirmed by aerial. <b>b.</b> Opencast restored confirmed by aerial. <b>c.</b> Not apparent on 2010 aerial <b>d.</b>	<b>a.</b> Large areas of less productive – felling, also quarries <b>b.</b> Blaenrwch opencast less productive		Selar North Opencast – active. Bwlch Ffos Opencast – application under consideration, April 2013	<b>c.</b> Pen y Cymoedd windfarm throughout most of area consented 112no. 140ht (almost half area is in adjacent Bridgend/RCT) <b>d.</b> Various forestry to broadleaf may be conspicuous from main valleys and settlements including Blaengwrach	<b>c.</b> Windfarm not built. <b>d.</b> Not significant yet <b>e.</b> Conspicuous felling on Afan valley sides above Abercregan/Cwm Afan (not broadleaf areas) – maybe Phytophthora felling	Survey: Amend summary, condition, trend, recommendations to reflect opencast extraction/restoration and broadleaf conversion.
NPTVS970	<b>a.</b> Not apparent on	<b>a.</b> Large area of				<b>b.</b> Maesgwyn	Survey: Amend summary

Banwen Pirddyn	aerials	less productive land east of Roman Fort				windfarm overlooks this aa, significant visual impact	and views to reflect windfarm in adjacent aa <b>(b.)</b>
----------------	---------	---	--	--	--	---	--

## Neath Port Talbot: Change Detection Figures

NPTVS184 – Ystalyfera

Expansion of housing



2001



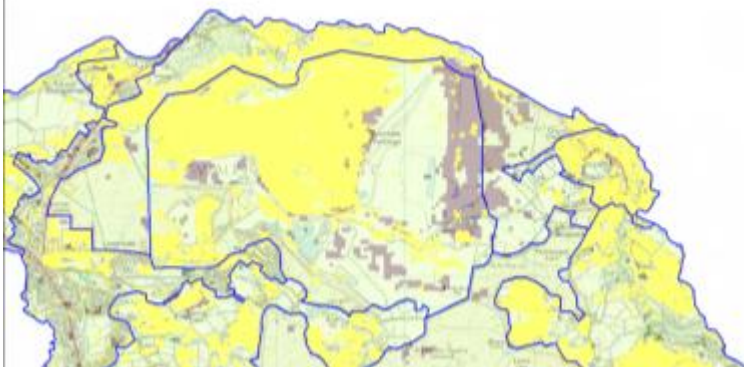
2010



2013 Google Earth showing tracks on 581

NPTVS226 - GCG works

opencast showing changes in productivity





NPTVS357 Hirfynydd Forest – opencast expansion/restoration



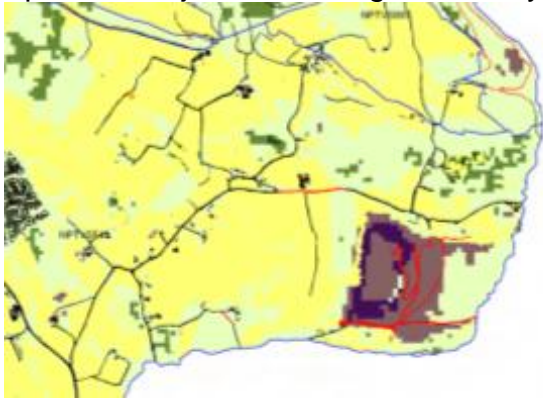
2001



2010

NPTVS543 Coedhirwaun –

Opencast adjacent to Bridgend county boundary – to have separate aspect area



2001



2010

NPTVS274 Steelworks tipping



Google Earth 2013 shows part restored to sand dune

NPTVS592 Gelli-bwch works – former Llandarcy oil refinery



2001

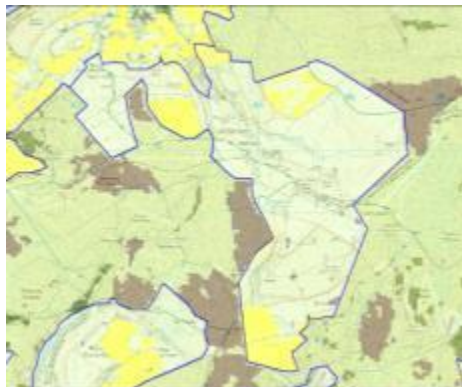


2010



2013 Google Earth showing housing development

NPTVS624 Carn Caca Ffynnon Oer windfarm





NPTVS878 Pontardawe



2010 Tescos built

NPTVS962 Mynydd Nant-y-bar Blaenrwrch opencast extraction/restoration

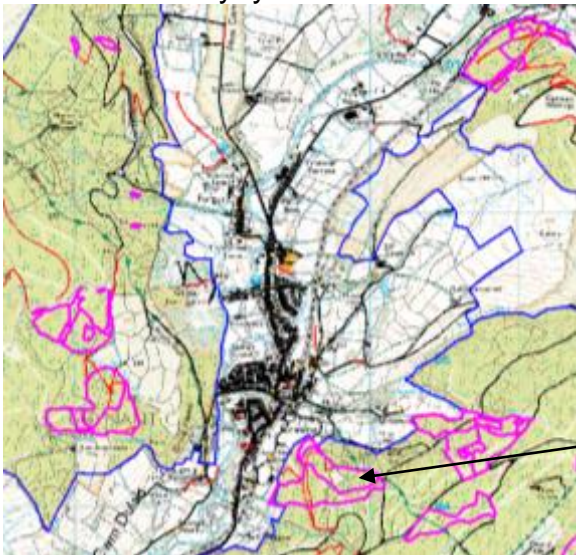


2001



2010

NPTVS357 Hirfynydd Forest



Broadleaf conversion on valley sides overlooking Crynant



**Cyfoeth  
Naturiol**  
Cymru  
**Natural  
Resources**  
Wales

Published by:  
Natural Resources Wales  
Cambria House  
29 Newport Road  
Cardiff  
CF24 0TP

0300 065 3000 (Mon-Fri, 8am - 6pm)

[enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk)  
[www.naturalresourceswales.gov.uk](http://www.naturalresourceswales.gov.uk)

© Natural Resources Wales

All rights reserved. This document may be reproduced with prior permission of  
Natural Resources Wales