



**Cyfoeth
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**Natural
Resources**
Wales

**Area 2: Newport:
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
 - Single wind turbines
 - Solar farms
 - Settlement expansion
 - Gradual increase in scattered development, 'gentrification', etc.
 - Coastal erosion
- 5.0 Summary of Key Changes and Influences in Newport
 - Expansion/development of settlements
 - Expansion of industry
 - Llanwern
 - Celtic Manor developments
- 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 2 which includes Newport.

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 Newport.

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 Newport 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 Baseline

- 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. Minor amendments have been made to the monitoring table during stage 3, to be in line with actual GIS and survey changes

3.7. 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 Newport 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 not responded to the questionnaire.

Column 6: Other resources used for Newport:

- Forestry mapping showing conversion from conifer to broadleaf woodland
- (Windfarm mapping showed no windfarm development in Newport)
- Google Earth (referenced as GE2013) provides more up-to-date aerial photographs for Newport.

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:

- Fifteen aspect areas require boundary changes.
- Sixteen aspect areas require amendments to survey data relating to descriptions.
- There are no recommended changes to classifications or evaluations.
- No new aspect areas are 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 Newport are included.

Forestry conversion to broadleaf woodland

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.

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 or main transport/tourist routes, or recreational areas. This only applies to aspect areas which are significantly wooded, not where woodland/forestry is not a key characteristic.

Phytophthora felling

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 changes relating to *Phytophthora* have been detected in Newport.

Single wind turbines

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

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 very occasional wind turbines, area with occasional turbines; area with turbines.

Solar farms

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

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 significant changes relating to solar farms have been detected in Newport.

Settlement expansion

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.

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.

Gradual increase in scattered development, 'gentrification' etc.

Sources: GIS Mastermap road and building change mapping, aerial photographs (2001 and 2010), plus Google Earth 2013 photography where applicable. LPA feedback has also assisted in assessing the significance of change.

This is difficult to quantify but it is noticeable in some of the more prosperous and tourist-related areas such as south Monmouthshire and parts of Pembrokeshire. These developments generally relate to dwellings, increases in rural industries and industrialised farming, and to tourist-related developments. Recommended amendments relate to trend with recommendation to ensure appropriate development.

Coastal erosion

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.

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 Newport.

5.0 Summary of Key Changes and Influences in Newport

Expansion/development of settlements:

5.1. New housing estates within settlements and on the edges of High Cross, Dyffryn and Marshfield means that these settlements have expanded beyond their aspect area boundaries. Aspect area boundary amendments are required. Within Newport there has been development alongside the Usk and at the docks.

Expansion of industry:

5.2. There have been additions to industrial areas along the M4 corridor, at the LP Park. At Newport docks there has been considerable re-development and restoration works.

Llanwern:

5.3. Major re-development of the former steelworks, creating a 'new community', housing and business park is changing the character of the area and surrounds.

Celtic Manor developments:

5.4. The developments relating to the 2010 golf master tournament include road junctions, new golf course, and associated access provision which has had visual impacts

Newport

beyond the immediate aspect areas. These developments require the extension of the Celtic Manor golf course aspect area into adjoining aspect areas.

6.0. Monitoring Table and Figures

Newport: Monitoring Table: Final

1 Aspect Area UID & name	2 Change indicated by: 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
NWPRTVS001 Wentlooge level	a.part of Dyffryn extended into this aa b.Various scattered new buildings along coast road. Not apparent from aerials					b. Not noticeably changed	GIS: Boundary change with 039 to exclude housing estate (a) Survey: Amend summary and trend to reflect expansion of adjacent settlement.
NWPRTVS004 Castleton Environs						Castleton expanding into this aa	GIS: Boundary change with 051 Survey: note boundary change
NWPRTVS011 River Usk (lower)	New bridge at upper boundary upgraded for vehicles, possibly part of Celtic Manor development					Conspicuous new white bridge	Survey: Amend summary, views, trend to reflect new bridge.
NWPRTVS012 M4 & A4232	Major new junction on A4232 for Celtic Manor golf						GIS: Boundary change with 030 & 029 Survey: Amend summary, trend to reflect increased impact of junction
NWPRTVS013 Machen slopes	Growth of woodland on north, overlooking Ebbw Valley					Not noticeable	No amendments required – no significant change.
NWPRTVS014 Maescoed	a.Housing extension of High				b.Patches of broadleaf		GIS: Boundary change with 046 (a)

Newport

	Cross 046 into aa, adjacent to canal				conversion		Survey: note boundary change
NWPRTVS015 Ynysfro	Housing extension of High Cross into area near canal centre						GIS: Boundary change with 046 Survey: note boundary change
NWPRTVS016 Malpas Brook valley	Large new school development, plus housing adjacent to 050						GIS: boundary change with 050 Survey: note boundary change
NWPRTVS024 Park Wood	a. re-newed forestry tracks. All broadleaf	b. large areas of woodland more productive			c. Large area of broadleaf conversion	No obvious or significant changes visible	Survey: Amend summary, trend, recommendations to reflect gradual increase in broadleaf.
NWPRTVS026 Usk floodplain	a. New/upgraded roads and bridge from Caerleon to golf b. extension of golf course into this aa					Conspicuous new white bridge	GIS: Boundary change with 029 to exclude golf related development (b) Survey: Amend summary, views, trend, recommendations to reflect more intensive recreational uses.
NWPRTVS027 Chepstow Hill	Conglomeration of new roads focusing on new building – related to Celtic Manor golf developments					Large part of this aa is now golf-dominated	GIS: Boundary change with 029 to exclude golf-related development. Survey: Amend summary, views, recommendations to reflect reduction of area and increase in recreational activities adjacent.
NWPRTVS029 Celtic Manor golf course	a. New slip roads from A4232					b. Golf-related uses extended into adjacent 027 and 026	GIS: Boundary changes with 012 (a.) and 026/027 (b.) Survey: Amend summary, descriptions, trend recommendations to reflect increase in area.

Newport

NWPRTVS030 Kemeys Graig	a. New junction on A4232 extending into this aa	b. woodland mainly more productive				b. Generally appears to be continuing maturing of woodland. No significant change.	GIS: Boundary change with 012 to exclude junction (a) Survey: Amend summary. Note boundary change
NWPRTVS031 Wentwood	a. Re-built forestry tracks throughout b. growth apparent					b. Patches of broadleaf conversion. Contiguous with Mons	Generally appears to be cycle of management. No significant change
NWPRTVS032 Wentwood valley slopes	Not apparent on aerials	Woodland mainly more productive				Generally appears to be cycle of management. No significant change	No amendments required – no significant change.
NWPRTVS038 LG park	Several new buildings in north, adjacent to M4					North part busier, south part much the same – large areas not used. More views from M4	Survey: Amend summary, views, trend to reflect increase in development
NWPRTVS039 Dyffryn	a. Two new estates developed and extending into 001. Less woodland b. development adjacent in 001						GIS: Boundary change to include adjacent development in 001 Survey: Amend summary, trend, recommendations to reflect increase in developments.
NWPRTVS040 Docks & Level of Mendalgrie	a. Several new buildings around docks. b. Distributor road upgraded c. large derelict area restored to grassland on west side						a. Not apparent. b. Not apparent c. Landfill site formed into 'hills' with grassland, still active.
NWPRTVS042 Usk built urban corridor	New/redeveloped areas on both sides of river – college on west, housing on east						Survey: Amend summary, descriptions, trend, recommendations to reflect redevelopments.

Newport

NWPRTVS044 Llanwern	Large new building in east. Much more demolished in west part					Major re-development of former steelworks. In west – GlanLlyn “an exciting new community” being built. Central part – Celtic Business Park being built. In east – steelworks, distribution sheds. Public roads straight through centre.	Survey: Amend summary, descriptions, views, condition, recommendations, trend. (no change to classification required)
NWPRTVS045 Bassaleg	New housing estate next to river, within aa					Not conspicuous	No amendments required – no significant change.
NWPRTVS046 High Cross	<p>a. Housing extension next canal into 014</p> <p>b. Housing extension into 015 near canal centre.</p> <p>c. housing development adjacent to M4</p> <p>d. Housing estates on both sides of river on previously open land</p>						<p>GIS: Boundary change with 014 (a) and with 015 (b)</p> <p>Survey: Amend summary, descriptions, trend, recommendations to reflect expansion of settlement</p>
NWPRTVS047 Rogerstone						GE2013 shows demolition of former steel works that formed major part of this aa	Survey: Amend summary, descriptions, trend, recommendations to reflect change from industry to disused land.
NWPRTVS050 Bettws	Large new school development extension to aa						<p>GIS: Boundary change with 016 in include school</p> <p>Survey: note boundary change</p>
NWPRTVS051 Castleton						New housing on southern edge, nearly joined with Marshfield	<p>GIS: Boundary change with 004</p> <p>Survey: note boundary</p>

Newport

							change
NWPRTVS052 Langford	Considerably more new industrial/retail infill development adjacent to A4232.						Survey: Amend summary, description, condition, trend, recommendations to reflect increase in development
NWPRTVS058 Marshfield	a. housing development partly extending into 001 b. in east, housing development on previous industry					a. New housing developments on north edge of Marshfield and south edge of Castleton means settlements nearly joined now. b. Lots of new apartments plus housing being built.	GIS: Boundary change with 001 Survey: Amend summary, descriptions, trend, recommendations to reflect increase in housing.

NWPRTVS029, 027, 030, 026 - Celtic Manor developments relating to Masters Golf Tournament



2001



2010

Newport

NWPRTVS038, 039 - Dyffryn housing estates, and LG industry expansion



2001

Newport



2010

NWPRTVS040 – Newport docks



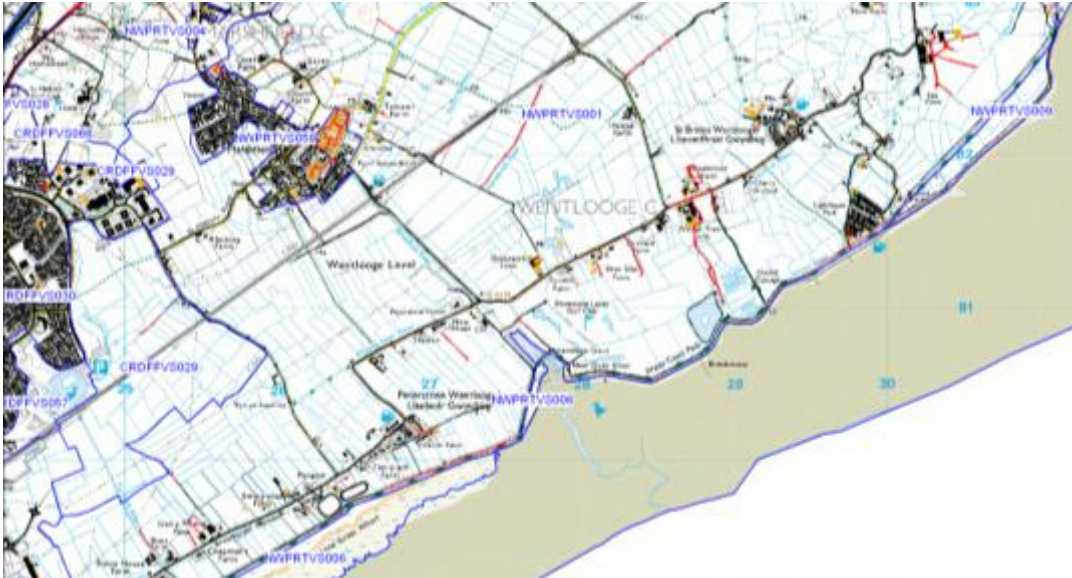
2001



2010

Scattered developments on the Levels

Newport



Forestry and woodland changes at Park Wood and Wentwood



NWPRTVS046 – High Cross



2001

Newport



2010



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