

# Area 2: Monmouthshire: LANDMAP Change Detection: Visual & Sensory Aspect Monitoring Report Final: March 2015

**Bronwen Thomas** 

Rev No. 3

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# **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 Monmouthshire.

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 Monmouthshire.

# 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 Monmouthshire 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 others, 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. Italics denote amendments required for consistency rather than landscape change.

3.6. 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.

3.7. 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 Monmouthshire 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:** BBNPA and Wye Valley AONB officers responded to the LPA questionnaire. The LPA provided some feedback for north Monmouthshire after all fieldwork had been completed.

**Column 6:** Other resources used for Monmouthshire:

- Forestry mapping showing conversion from conifer to broadleaf woodland
- (Windfarm mapping showed no windfarm development in Monmouthshire)

**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:

- Fourteen aspect areas require boundary changes.
- Seventeen aspect areas require amendments to survey data relating to descriptions.
- There are no recommended changes to classifications or evaluations.
- Two new aspect areas are recommended.
- There are changes relating to inconsistencies.

# 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 Monmouthshire 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 2001in 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.

## **Single wind turbines**

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

4.6. 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

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. 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 changes relating to solar farms have been detected in Monmouthshire.

## **Settlement expansion**

4.9. 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.

4.10. 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.

4.11. 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.

4.12. 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**

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 Monmouthshire.

# 5.0 Summary of Key Changes and Influences in Monmouthshire

#### Expansion of settlements:

5.1. New housing estates on the edges of Caldicot and Abergavenny means that these towns have expanded beyond their aspect area boundaries.

5.2. Llanfoist has greatly expanded in size with new housing. It is recommended that this village has its own aspect area.

#### **Expansion of industry:**

5.3. There have been several additions to industrial areas along the M4 corridor, at Newhouse Park, and at Magor Brewery.

#### Road schemes:

5.4. The A465 Heads of the Valleys road upgrading between Abergavenny and Gilwern has changed the views, tranquillity and activity of the aspect areas it passes through. New junctions have expanded the aspect area.

#### Scattered rural developments:

5.5. In rural areas north of the M4 there appears to be many scattered new buildings and associated access roads. The cumulative effect of new homes, barn conversions, farm expansions and rural business development adds to the 'suburbanisation' of these areas.

#### Forestry:

5.6. As well as the expected change relating to felling/replanting regimes, there are several areas where blocks of conifers have been replaced with broadleaf trees in potentially prominent positions on valleys sides, near main roads, recreational facilities and routes, such as the Blorenge and Sugarloaf slopes, also the Wye Valley. The effects do not amount to landscape change yet but may do in the future.

#### Management of moorland:

5.7. Active management to improve heather moorland on the Blorenge and elsewhere in the National Park, plus recreational access management is having a gradual beneficial effect on these areas.

# 6.0. Monitoring Table and Figures

Italics denotes amendments required for consistency rather than change. Previously detected inconsistencies in aspect areas 014,038,044,094,042,008 & 074 have been rectified.

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 feedback (Aug14) BBNPA questionnaire AONB	6. Other resources	7. Fieldwork	8 Recommended LANDMAP amendment
MNMTHVS003 Blorenge				Blorenge Management. Burning regime/heather management = Improvements to the quality of the Natural Environment – potentially other impacts as a result of the Forgotten Landscapes Project in this area (BBNPA)		May be more heather	Survey: Amend summary, recommendations, management, trends to reflect gradual improvements to moorland management.
MNMTHVS005 Black Mountains		a.Less/much less productive woodland at Blaen y cwm near parking/info – felling?		<b>b.</b> Pathway erosion + improvement Deterioration + improvement of natural environment + infrastructure requirement (BBNPA)	c.Small areas of broadleaf conversion, do not correlate with large area of less productive	<b>c.</b> Hidden from most views, not visually significant	No amendments required – no significant change
MNMTHVS010 Mynydd Garnclochdy	<b>a.</b> Re-newed paths throughout – BBNP management, Forgotten Landscapes?	<b>b.</b> Less productive in north – bracken management?				<b>b.</b> Not able to ascertain	No amendments required – no significant change
MNMTHVS014		More/much				Not able to	No amendments

Graig Syfyrddin		more productive woodland on western slopes			ascertain	required – no significant change
MNMTHVS015 Northern Hills	<ul> <li>a. Minor change shown on Roads/buildings mapping. Not visible on aerials</li> <li>b. Not apparent on mapping/aerials</li> </ul>		<ul> <li>a. A lot of caravan &amp; camping recreational facilities established,</li> <li>e.g. around Wernddu,</li> <li>Tredillion Farm,</li> <li>Newlands Farm.</li> <li>b. Big increase in horse riding facilities,</li> <li>e.g. around Pandy</li> <li>(LPA)</li> </ul>			Survey: Amend summary, trend, recommendations to reflect increase in outdoor recreational facilities ( <b>a. b.</b> )
MNMTHVS019 Chepstow parkland	Various new buildings at isolated farms, plus access roads suburbanization?		Generally there has been a lot of small scale agricultural developments of an industrial nature. (LPA)			Survey: Amend summary, trends, recommendations to reflect scattered developments
MNMTHVS020 Vale of Ewyas		<ul> <li>a.More</li> <li>productive</li> <li>woodlands on</li> <li>western</li> <li>slopes.</li> <li>b.More</li> <li>productive</li> <li>area – new</li> <li>woodland? On</li> <li>eastern lower</li> <li>slope</li> </ul>		<b>a.</b> Areas of broadleaf conversion on western slopes, not correlated with more productive	<b>a.b.</b> Not making for significant change	No amendments required – no significant change
MNMTHVS021 Clydach Gorge			a.Sustrans cycle route at Clydach Gorge + Llanely Hill. Route improvement works for cycling = Changes through infrastructure provision –		<b>a.</b> Not overall significant change	No amendments required – no significant change

			Improvement of cycle ways (BBNPA)			
MNMTHVS022 Monnow Valley		Much less productive woodland adjacent to 014 at High Meadow – felling?				No amendments required – no significant change
MNMTHVS027 Devauden scarp slopes				Several areas of broadleaf conversion	Not noticeable yet, but may be in future	Survey: Amend summary, trend, recommendations to reflect gradual change to more broadleaf woodland
MNMTHVS028 Blorenge scarp slopes		a.Patches of more and less productive woodland at Craig yr Allt and Coed y Prior woods – felling/tree growth. Less productive on open hill at Coed y Prior – bracken? Glebe Wood – all more productive, above Llanfoist	<b>b.</b> The Punchbowl. Re- flooding of a glacial hollow east of the Blorenge = Changes to Natural Environment <b>c.</b> Middle Ninfa Campsite. Extension/improvement = Changes to Natural Environment (BBNP)		<b>a.</b> Various areas re-planted with broadleaf, some will be noticeable from lower slopes.	Survey: Amend summary, trend, recommendations to reflect gradual increase in broadleaf and improvements to management.
MNMTHVS029 Sugarloaf scarp slopes	<b>a.</b> New development at Parc Lodge – NT centre	<b>b.</b> More/much more productive woodlands throughout – St Mary's Vale		<b>c</b> .Several areas of broadleaf on Usk slopes, do not correlate with	No obvious change in woodland but highly visible slopes overlooking	Survey: Amend summary, views, recommendations, trends to reflect changes in woodland.

		and overlooking Abergavenny			more productive	Abergavenny	
MNMTHVS033 Trellich Forest & Commons				Changes in woodland management favouring broadleaves, removal of conifers, etc. will have some positive impacts (AONB)	Several areas of broadleaf conversion	Generally mixed woodland anyway so not significant change	No amendments required – no significant change
MNMTHVS036 Sor Brook valley	<ul> <li>a.Various new</li> <li>buildings at</li> <li>isolated farms,</li> <li>plus access</li> <li>roads,</li> <li>suburbanization?</li> <li>b.New tracks</li> <li>from Cwrt Perrott,</li> <li>into 016</li> </ul>			Generally there has been a lot of small scale agricultural developments of an industrial nature. (LPA)		<b>a.b.</b> Generally appears to be more recent scattered developments	Survey: Amend summary, trend recommendations to reflect increases in scattered development
MNMTHVS039 Llanvihangel Rogiet	Rogiet expanding into this aa						GIS: Boundary change with 061 Survey: Note boundary change
MNMTHVS040 East Undy	Magor brewery development extended into area (west)					confirmed	GIS: Boundary change with 066 Survey: Note boundary change
MNMTHVS041 Iffton	Rogiet expanding into this aa						GIS: Boundary change with 061 Survey: note boundary change
MNMTHVS043 Leechpool	Expansion of Caldicot into area					confirmed	GIS: Boundary change with 062 Survey :note boundary change
MNMTHVS044 Chepstow Woods	<b>a.</b> Re-newed tracks throughout St. Pierre Great Wood – major			Generally there has been a lot of small scale agricultural developments of an			Survey: Amend summary, trend recommendations to reflect increases in

	management, felling, recreational access? <b>b.</b> Various new buildings associated with isolated farms, and access roads - suburbanization	industrial nature. (LPA)			scattered development
MNMTHVS045 Lower Usk and Olway valleys			This aa relates to all Usk valley within Mons, not just lower valley and not Olway valley		GIS: Re-locate UID to relate to lower Usk valley only. New aa for Olway brook valley polygons (MNMTHVS100) Survey:check that survey relates to lower Usk valley only. New survey for Olway brook valley (MNMTHVS100) Re-name 'Lower Usk valley'
MNMTHVS046 Upper Usk Valley	<b>a.</b> Llanfoist expansion	<ul> <li>a. Llanfoist. Residential and factory development = Changes to the built environment adjacent to the Park Boundary (BBNP)</li> <li>b. PV sites at Llancayo and Kemeys Commander (LPA)</li> </ul>	This aa relates to Olway valley only	<b>a.</b> Large expansion has doubled size of settlement	GIS: Re-locate UID to upper Usk valley polygons Create new polygons for Llanfoist ( <b>a</b> .) (MNMTHVS099) Survey: check that survey relates to upper Usk valley Note boundary change to exclude Llanfoist
MNMTHVS051 Llanfihangel	Mardy (Abergavenny)				GIS: Boundary change with 072

Crucorney	expanding into				Survey: note
hinterlands	this aa				boundary change
MNMTHVS054	Expansion of big			Confirmed	GIS: Boundary
Eastern	shed from				change with 064
coastal	Newhouse Park				Survey: note
grassland					boundary change
MNMTHVS061	Housing				GIS: Boundary
Rogiet	expansion and				changes with 039
	pre-existing				and 041
	housing				Survey: note
					boundary changes
MNMTHVS062	Expansion to			Confirmed	GIS: Boundary
Caldicot	east, housing				changes with 043
	north of castle,				Survey: Amend
	and around				summary,
	Portskerrit, with				descriptions, trend,
	043				recommendations to
					reflect expansion of
					settlement
MNMTHVS064	Expansion of big			Confirmed, plus	GIS: Boundary
Newhouse	shed to north, to			further	change with 054
Park	M4, into 054			development	Survey: Amend
				within	summary, views,
					trend
					recommendations to
					reflect expansion
MNMTHVS066	Extension to			Confirmed	GIS: Boundary
Magor	north to M4,				change with 040
Brewery	access roads and				Survey: Amend
	small buildings,				summary, trend,
	into 040				recommendations to
					reflect expansion
MNMTHVS072	Minor housing				GIS: Boundary
Abergavenny	expansion in				change with 051
	north at Mardy				Survey: Amend
	Edge housing				summary, views,
	developments				trend,
	within boundary				recommendations to

							reflect expansion of settlement
MNMTHVS074 Gilwern	Not apparent on mapping		built enviro the countr Changes t	o built ent – physical			No amendment required – no significant change
MNMTHVS077 St. Pierre	New circular track – go carts or similar?					Luxury holiday chalets	No amendment required – no significant change
MNMTHVS082 Iffton Quarry	Aerial shows expansion to east, not north	Less productive in north edge – quarry workings?					GIS: :Boundary change with 098 Survey: Amend summary, trend, recommendations to reflect expansion
MNMTHVS086 Caerwent	New housing in north, within boundary						No amendment required – no significant change
MNMTHVS091 Wye valley sides					Several areas of broadleaf conversion		Survey: Amend summary, trend, recommendations to reflect gradual increase in broadleaf
MNMTHVS093 Chepstow Park Wood					Some small areas of broadleaf conversion		No amendment required - no significant change
MNMTHVS094 Wentwood	<ul> <li>a.Tracks renewal</li> <li>felling?</li> <li>b.Bicca Common new paths – recreational access management?</li> </ul>	<b>c.</b> Western part more/much more productive throughout – major growth?			<b>d.</b> Some largish areas of broadleaf in Darren Wood, seen from Usk valley?	<b>a.b.c.</b> Unable to ascertain <b>d.</b> Not conspicuous	Survey: Amend summary, trend, recommendations to reflect gradual increase in broadleaf.
MNMTHVS097 A465	<b>a</b> .Major upgrading – HoV		<b>a.</b> A465 at Gorge. Ro	Clydach bad widening		<b>a.</b> Major change to views to and	GIS: Boundaries changes with 045 ( <b>a</b> .)

MNMTHVS098 Chepstow Woods – south west	improvements. More exposed, noisier, etc. Effects 045, 025 <b>a.</b> In west - Various small new buildings adjacent to isolated farms plus new access roads – conversions, expansions, sub- urbanisation? <b>c.</b> Iffton	<b>b.</b> Several quite large areas of less/much less productive land, eg adjacent to Caerwent – expansion preparation?	and split levels = Changes to road infrastructure (BBNP) <b>b</b> .Clydach - Landslip on to the A465 = Changes to Natural Environment (BBNP) Generally there has been a lot of small scale agricultural developments of an industrial nature. (LPA)	from A465 <b>b.</b> Unable to ascertain	Survey: Amend summary, descriptions, views, recommendations, evaluation. GIS: Boundary change with 082 ( <b>c</b> .). Survey: Amend summary, recommendations, trend to reflect gradual scattered developments
	expanded into this aa				
MNMTHVS099 Llanfoist				Large expansion has doubled size of settlement	GIS: two new polygons. Survey: new record
MNMTHVS100 Olway Brook				Distinct from Lower Usk Valley	GIS: change polygon UIDs from 045 Survey: new record

### Monmouthshire: Change Detection Figures MNMTHVS045 & 097: Developments at Llanfoist and A465 upgrading





MNMTHVS061 Rogiet





Boundary change with 051

MNMTHVS019: Scattered rural developments





Cottage Farm, Shirenewton in 2001



MNMTHVS028 & 029: Forestry and woodland changes at Sugarloaf and Blorenge

in 2010



Amendments to MNTHVS045/046 in Usk and Olney Brook valleys



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

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