



**Cyfoeth
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Cymru
**Natural
Resources**
Wales

**Area 2: City of Cardiff Council:
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 Cardiff.

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 Cardiff.

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 Cardiff 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 monitoring table and accompanying figures are appended to 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 monitoring 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.

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

3.8. 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 Cardiff these have not proved to be conclusive of 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 supplied useful thematic maps and notes on some specific developments in response to the questionnaire. Feedback from the stage 2 monitoring table has also been incorporated.

Column 6: Other resources used for Cardiff:

- Forestry mapping showing conversion from conifer to broadleaf woodland
- (Windfarm mapping showed no windfarm development in Cardiff)
- Personal knowledge comments.
- (Google Earth does not provide any more up-to-date aerial photographs for Cardiff).
- *Inconsistencies have been noted in this column.*

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:

- Three aspect areas require boundary changes. These all relate to inconsistencies.
- Three aspect areas require amendments to survey data relating to descriptions and recommendations.
- There are no recommended changes to classifications or evaluations.
- There are no recommendations for new aspect area
- One aspect area requires re-naming

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 Cardiff are included.

Phytophthora felling

4.2. 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 changes relating to *Phytophthora* felling have been detected in Cardiff.

Single wind turbines

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

4.4. In many parts of Wales 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 wind turbines have been found in Cardiff.

Solar farms

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. 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 Cardiff.

Settlement expansion

4.7. 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.

4.8. 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.

4.9. 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.

4.10. 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. It has not been possible to verify this trend in Cardiff.

Coastal erosion

4.11. 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.

4.12. 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 Cardiff.

5.0 Summary of Key Changes and Influences in Cardiff

5.1. The LPA pointed out that Cardiff LANDMAP was reviewed in 2008 and therefore some of the change identified may have already been accounted for.

Expansion/development of settlements:

5.2. Most new development has taken place within the built-up area of the city which is excluded from LANDMAP and does not impact significantly on nearby aspect areas.

5.3. New industry on the Wentlooge Levels (CRDFFVS030) is expanding the extent to the built-up area. This extends the urban fringe area and adds to the intrusion on adjacent semi-rural areas of the Levels.

Enhancement of Public Open Spaces:

5.4. Improvements at Bute Park, plus the cycle path at Pontcanna Fields, increase the value of POS.

6.0. Monitoring Table and Figures

Italics denotes changes required for consistency rather than change

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	6 other resources (+ personal knowledge)	7 Fieldwork	8 Recommended LANDMAP amendment
CRDFFVS030 Wentlooge levels south west	a. new industrial/retail development alongside railway b. buildings and expansive developments at Newton – unclear what	b. Less productive land around Newton		c. Several new/expanded industrial units in Wentlooge	<i>No aa boundary with Cardiff settlement so all of east Cardiff is in this aa</i>	b. Topsoil 'production' – lots of lorries, dust, etc.	GIS: <i>Add boundary to exclude eastern Cardiff.</i> Survey: Amend summary, descriptions, views, recommendations, trends to reflect additional developments. <i>Note boundary change</i>
CRDFFVS041 Bute Park	a. New development at RWCMD. Not built on 2010 aerial				a. RWCMD has views to Park, so prominent. b. Much up-grading work done at Bute Park		Survey: Amend summary, descriptions, views management, trend to reflect upgrading
CRDFFVS042 Pontcanna Fields & Blackweir corridor	a. New developments at Sophia Gardens sports centre, and UWIC. b. Mature woodland	b. More productive woodland at Blackweir		c. New cycle path across Pontcanna Fields	<i>Hailey Park is in this aa</i>	More development and improvements	GIS: <i>Boundary change with 043 to exclude Hailey Park</i> Survey: Amend summary, descriptions, views, trend to reflect developments and increased use.
CRDFFVS043 Hailey&				a. New cycle path & bridge	<i>Hailey Park is in 042</i>		GIS: <i>Boundary change with 042 to include</i>

Cardiff

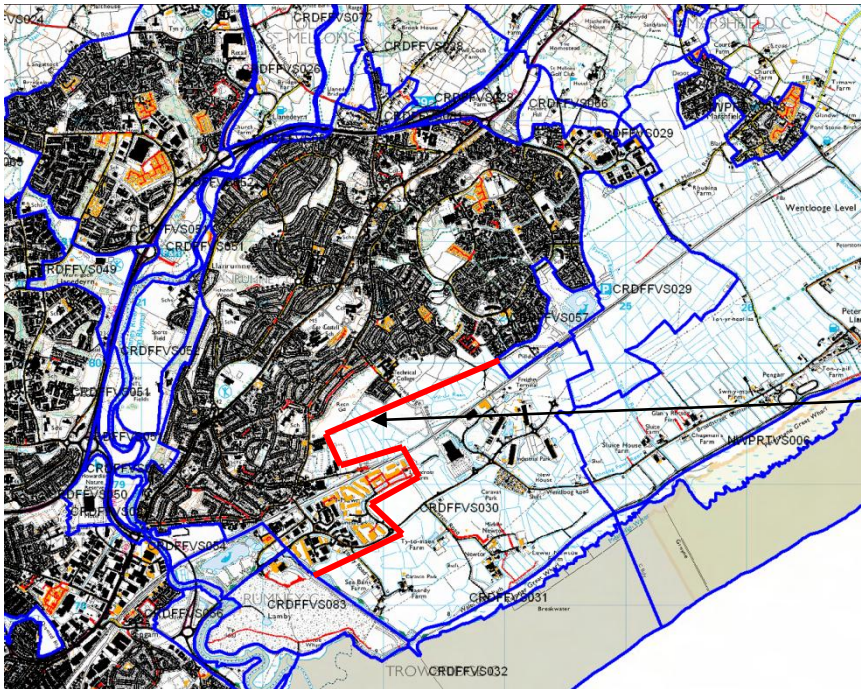
Lydstep parks/Taff corridor				improvements in Hailey Park			<i>Hailey Park Survey: note boundary change</i>
CRDFFVS048 Llanishen reservoir	Not apparent on aerials				Recent public open space - enhancements?	Not much changed	No amendments required – no significant change
CRDFFVS081 A48 & spur roads				New Morrison shop on Newport Road near southern end of aa		Too far away to be significant	No amendments required – no significant change
CRDFFVS053 Rhumney Valley floor farmland					<i>Mis-named - This is in fact the River Rhymney between A48 at Llanedeyn and Severn Estuary</i>		<i>Survey: Check data and re-name. Change classification</i>

Cardiff: Figures

CRDFFVS030 - Intensification of uses on the Wentlooge Levels



Newton



Boundary (approximate) to exclude eastern Cardiff from this aspect area

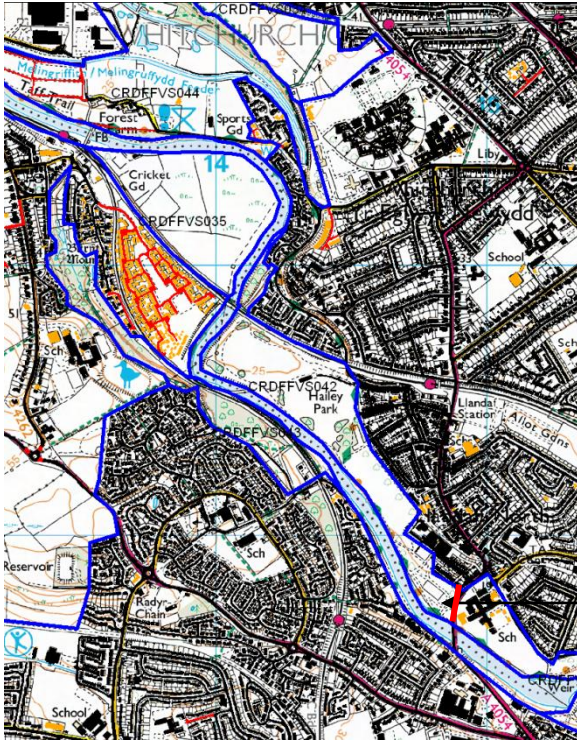
CRDFFVS042



Bute Park and Pontcanna Fields with adjacent large new buildings, and growth in woodland at Blackweir

CRDFFVS042/043 – Hailey Park

Cardiff



— Boundary to include Hailey Park in 043



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