

Benburb-Milltown ASSI

Condition Assessment Report 2024

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An Agency within the Department of
Agriculture, Environment and Rural Affairs
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Gníomhaireacht de chuid na Roinne
Talmhaíochta, Comhshaoil agus Gnóthaí Tuaithe

An Agency wi'in the Depairtment o
Fairmin, Environment an' Kintra Matthers

Benburb-Milltown ASSI Condition Assessment Report 2024

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Please note, all external links in this report were correct at the time of completion.

Acknowledgements

The continued stewardship of the special lands within the ASSI, and access permission to undertake monitoring, is acknowledged by the Department. Many protected areas in Northern Ireland are owned and managed by private landowners and farmers and are not accessible to the public.

Summary

Using JNCC Common Standards Monitoring methodology, the Earth Science features of Benburb-Milltown ASSI are currently defined as:

1. Carboniferous stratigraphy – Unfavourable. Feature extent is as at designation, however access, quality and visibility of the feature is greatly reduced due to vegetation growth.

2. Triassic stratigraphy – Unfavourable. Feature extent is as at designation, however access, quality and visibility of the feature is greatly reduced due to vegetation growth.

Overall Benburb-Milltown ASSI retains its geological diversity and naturalness and remains a special place.

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1. Condition Statement

The Earth Science interest features of Benburb-Milltown Upper ASSI and their condition status are summarised in Table 1 below. It is important to note that under the Common Standards Monitoring methodology, a site is classified as unfavourable if any primary attribute is failing. In many cases, these sites continue to represent excellent examples of Northern Ireland's best natural assets.

Table 1: Benburb-Milltown ASSI Earth Science Interest Features summary results

ASSI Features	Reporting responsibility	Condition Assessment	
		2020-2026	2014-2020
Carboniferous stratigraphy	Earth Science	Unfavourable 1 favourable attribute 2 unfavourable attributes	Unfavourable
Triassic stratigraphy	Earth Science	Unfavourable 1 favourable attribute 2 unfavourable attributes	Unfavourable

*More detailed information on attribute breakdown is available in Section 7 and Appendix 1 of this report.

2. Background

The Department of Agriculture, Environment and Rural Affairs (hereafter referred to as the Department) in its role as the Statutory Nature Conservation Body, undertakes regular monitoring of the special assets, or features, contained within specially protected sites across Northern Ireland. These sites include Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Areas of Special Scientific Interest (ASSIs). Further details can be found at Protected areas | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk).

This monitoring enables reporting on the status of the special features which are protected, enables objective feedback on current management measures and can inform any subsequent management intentions. Results can also contribute to the assessment of relevant policies in place, and also inform future policy development. In addition, the results inform the implementation of a range of obligations under both national and international policy and legislation. These include: the Convention on Biological Diversity (CBD), the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR), the Bern Convention, the Marine Strategy Framework Directive (MSFD), and the Water Framework Directive (WFD).

The monitoring undertaken is called Condition Assessment, as it is the condition of the special features that is being assessed. The approach is also known as Common Standards Monitoring, because the methodology aims to result in a *common standard* being reported across sites in NI and the rest of the UK. The Department aims to complete a rolling programme of ASSI Condition Assessment and reporting every six years.

The monitoring is focused, as outlined in the Joint Nature Conservation Committee (JNCC) guidance (JNCC, 2004a; b), primarily on the interest features for which the site has been notified or designated. They include habitat types, species and Earth Science features, as well as complex features such as habitat mosaics and species assemblages. Each interest feature must be identified, monitored, assessed and reported upon separately.

Monitoring and assessment of the condition of the interest features of individual sites enables relevant authorities, agencies and landowners to adapt management measures accordingly to ensure conservation objectives are achieved.

The Conservation Objectives for each site contain details of the attributes (measurable targets) for each interest feature within the site: the condition assessment determines the condition status of each interest feature when compared against relevant feature attributes.

The JNCC Statement on Common Standards Monitoring (JNCC, 2022) assesses interest features using one of the following four condition categories. These are all common standards:

- **Favourable**: Condition objectives are being met
- **Unfavourable**: Condition objectives are not being met
- **Partially destroyed**: The feature, habitat or processes essential to support it have been removed or irretrievably altered. A condition assessment should be carried out on the remaining, intact feature.
- **Destroyed**: The interest feature, its supporting habitat or processes, have been affected (completely or partially) to such an extent that there is no hope of recovery.

The JNCC has listed the following trend qualifiers which were previously considered part of the common standards as optional, which the Department may choose to use as required:

- **Favourable – maintained**: The conservation objectives which were met at the previous assessment are still being met.
- **Favourable – recovered**: The interest feature has gained favourable condition, having been previously recorded as unfavourable.
- **Favourable – declining**: All targets are being met, but identified pressures indicate that unfavourable condition will result if these pressures are left unaddressed.
- **Unfavourable – recovering:** The interest feature has begun to show, or is continuing to show, a trend towards favourable condition.

- **Unfavourable - no change**. The interest feature is unfavourable but neither declining nor recovering.

- **Unfavourable - declining**. The interest feature is declining as a consequence of damaging activity, but where recovery is possible, either spontaneously or if suitable management input is made.

3. ASSI Overview

Benburb-Milltown ASSI is located approximately 10km northwest of Armagh City in Cos. Armagh and Tyrone. It contains solely Earth Science site selection features over an area of just over 11ha. Many protected areas in Northern Ireland are owned and managed by private landowners and farmers and are not accessible to the public.

Table 2: ASSI details

ASSI name	Benburb-Milltown
ASSI code	365
Council Area (s)	Armagh City, Banbridge and Craigavon & Mid Ulster
Irish Grid Reference	J242 223
Landowner details	Private ownership
ASSI size	11.05ha
Date declared	08/02/2012

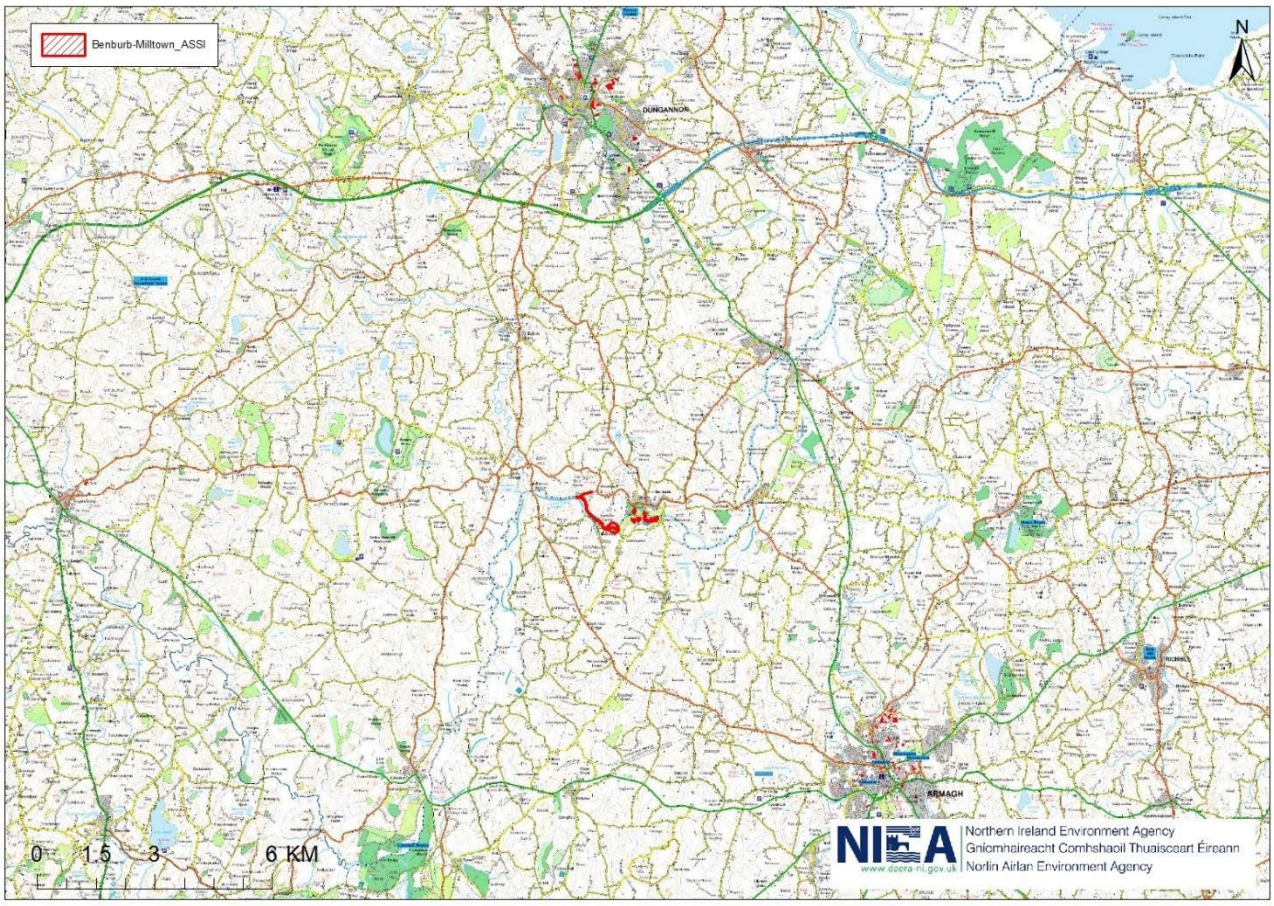
Further information on Benburb-Milltown ASSI is available via:

- DAERA website
- NIEA map viewer

In addition, the entry for the site and/or features in the Earth Science Conservation Review is available via:

- Earth Science Conservation Review website

4. Location map



5. Feature descriptions

Carboniferous stratigraphy

Benburb-Milltown ASSI is of geological importance as it contains exposures of one of the most complete and highly fossiliferous successions of Carboniferous strata in south Co. Tyrone and Co. Armagh. The type sections of all four formations exposed are found in the site.

Triassic stratigraphy

Benburb-Milltown ASSI also hosts the type localities for the Early Triassic age Milltown Conglomerate Formation and the Derrycreevy Sandstone Formation

6. Common Standards Monitoring Methodology

The condition of the Earth Science features of Benburb-Milltown ASSI have been assessed following the Common Standards Monitoring (CSM) guidance for Earth Science Sites (JNCC, 2004b). Earth Science features and sites used fixed point photography for Condition Assessment. The scale of images will depend on site size, type, scale of features and how the features are expressed.

The attributes to be measured (or estimated) in the field deal with presence, extent, access to and visibility of the site selection features and evidence that hydrological, hydrogeological or other processes are operating without impacts or modifications.

Site specific methodology

The Earth Science features of Benburb-Milltown ASSI fall into the Exposure – disused quarries and pits, Exposure – road, rail and canal cuttings and Exposure – river and stream sections Earth Science classification categories (Evans et al., 2023).

The key localities in Benburb-Milltown ASSI must be visited. These are identified in the citation, the Earth Science Conservation Review report, and any previous Condition Assessments.

Photos are taken that capture or demonstrate the current state of the site and the position of the photos is recorded on handheld GPS. Any other relevant information and/or observations on the features or site are also recorded in a field notebook.

The baseline Condition Assessment records points where photos were previously taken. These should be returned to where possible, though not all photos must be retaken for each Condition Assessment visit provided no discernible change is detected. Provided the key areas are visited in the field and observations recorded, a representative number of photos can be taken that enable an illustration of feature condition within the ASSI.

The assessment was undertaken by the NIEA Earth Science and Heritage officer on 09/10/2024. The condition assessment of the Earth Science feature(s) was undertaken by recording a number of key feature attributes at a series of points (fixed points) in the site. Not all points where photos are taken or observations made are used for Condition Assessment in favour of more representative photos.

A total of 16 points were visited, with 16 used for Condition Assessment in 2024 (Map 2). Photos were taken at these locations covering the Carboniferous and Triassic stratigraphy features of the site.

NB only the eastern section of the ASSI was visited, as in the absence of management since the last Condition Assessment, the western section is assumed to remain unchanged.

7. Results

ASSI features – Carboniferous stratigraphy, Triassic stratigraphy

At Benburb-Milltown ASSI, 16 Condition Assessment locations were assessed against 3 attributes (two Primary and four Secondary attribute) in 2024 (Map 2).

The detailed condition assessment attributes are displayed in the Annex Tables where they are measured against set condition assessment targets.

Carboniferous stratigraphy

Table 3: Summary table of all attributes assessed against set criteria

1 Primary Attributes assessed	**0** Favourable
	1 Unfavourable
2 Secondary Attributes assessed	**1** Favourable
	1 Unfavourable

Triassic stratigraphy

Table 4: Summary table of all attributes assessed against set criteria

1 Primary Attributes assessed	**0** Favourable
	1 Unfavourable
2 Secondary Attributes assessed	**1** Favourable
	1 Unfavourable

Benburb-Milltown ASSI failed on **2** primary attributes and the Earth Science features are therefore assessed as **unfavourable.**

8. Discussion

Carboniferous stratigraphy

The Carboniferous stratigraphy feature of Benburb-Milltown ASSI is in **unfavourable-no change** condition.

Throughout the site the Carboniferous outcrop, including the type localities, is obscured or access and visibility is hampered by vegetation growth. Where exposures are still identifiable, they are generally poor quality for the same reason.

Triassic stratigraphy

The Triassic stratigraphy feature of Benburb-Milltown ASSI is in **unfavourable-no change** condition.

As no management work has been undertaken since the last Condition Assessment, it was decided not to visit the west section of the site that hosts the majority of the Triassic geology. Throughout the site the Triassic outcrop, including the type localities, is obscured or access and visibility is hampered by vegetation growth. The Triassic rocks within the river channel are potentially accessible during times of low water levels.

9. Feature Recommendations

There are publicly accessible paths through the site on the north and south sides of the river which is not incompatible with the site selection features. A car park has also been

constructed in the site since the last Condition Assessment (L11), though its extent and location have not had a negative impact on the site selection features.

However, there is no active management of vegetation which is causing the site features to be in unfavourable condition. During the site visit there was evidence of what appeared to be ad hoc management of invasive species (Giant Hogweed and Himalayan Balsam), possibly by the local angling club.

Removal of the vegetation from almost all of the sections within the boundary is vital to retain the scientific interest of the site. Without active management the ASSI will remain in unfavourable condition, and as succession progresses, it may become increasingly difficult to achieve favourable condition. There would be the potential to develop the site as a geo & heritage trail in the future if managed correctly, given the extent of existing paths and industrial heritage of the area.

10. References

- Evans, D., Brown, E., Larwood, J., Prosser, C., Silva, B., Townley, H., Wetherall, A., (2023). Geoconservation: Principles and Practice
- JNCC (2022). A Statement on Common Standards for Monitoring Protected Sites (2022) (version 2.1) (jncc.gov.uk).
- JNCC (2004a). Common Standards Monitoring - Introduction to the Guidance Manual (jncc.gov.uk)
- JNCC (2004b). Common Standards Monitoring Guidance for Earth Science Sites (jncc.gov.uk)

11. Appendix 1 – Annex tables

Table 5: Carboniferous stratigraphy

(* = primary attribute. One failure among primary attribute = unfavourable condition)

Attribute	Target	Method of Assessment	Monitoring Results 2024	Assessment	Monitoring Results 2018
* Extent and quality	Maintain the extent and quality of the feature as at time of designation.	Field observation	Extent of site is as at designation, however the quality of exposures is poor quality throughout.	**Unfavourable**	
Accessibility and visibility	Maintain access to, visibility and operation of feature.	Field observation	Access to and visibility of exposures has reduced.	**Unfavourable**	All site features are sufficiently extensive and robust for it to be unlikely that there will be any likelihood of damage in the foreseeable future.
Development	No developments that would prevent operation of natural processes	Field observation	No development detrimental to the site features was observed.	**Favourable**	

Table 6: Triassic stratigraphy

(* = primary attribute. One failure among primary attribute = unfavourable condition)

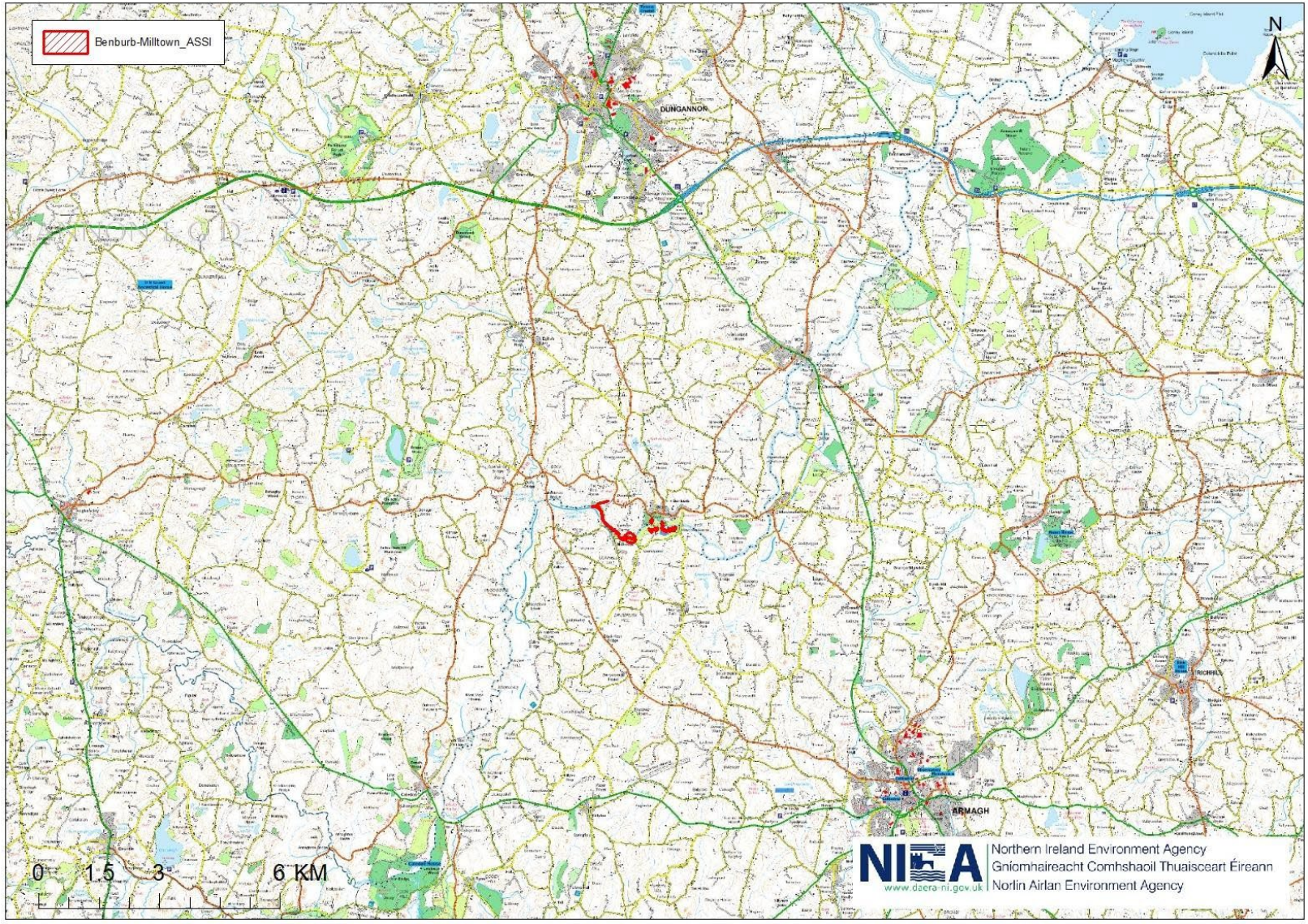
Attribute	Target	Method of Assessment	Monitoring Results 2024	Assessment	Monitoring Results 2018
* Extent and quality	Maintain the extent and quality of the feature as at time of designation.	Field observation	Extent of site is as at designation, however the quality of exposures is poor quality throughout.	**Unfavourable**	
Accessibility and visibility	Maintain access to, visibility and operation of feature.	Field observation	Access to and visibility of exposures has reduced.	**Unfavourable**	All site features are sufficiently extensive and robust for it to be unlikely that there will be any likelihood of damage in the foreseeable future.
Development	No developments that would prevent operation of natural processes	Field observation	No development detrimental to the site features was observed.	**Favourable**	

Back

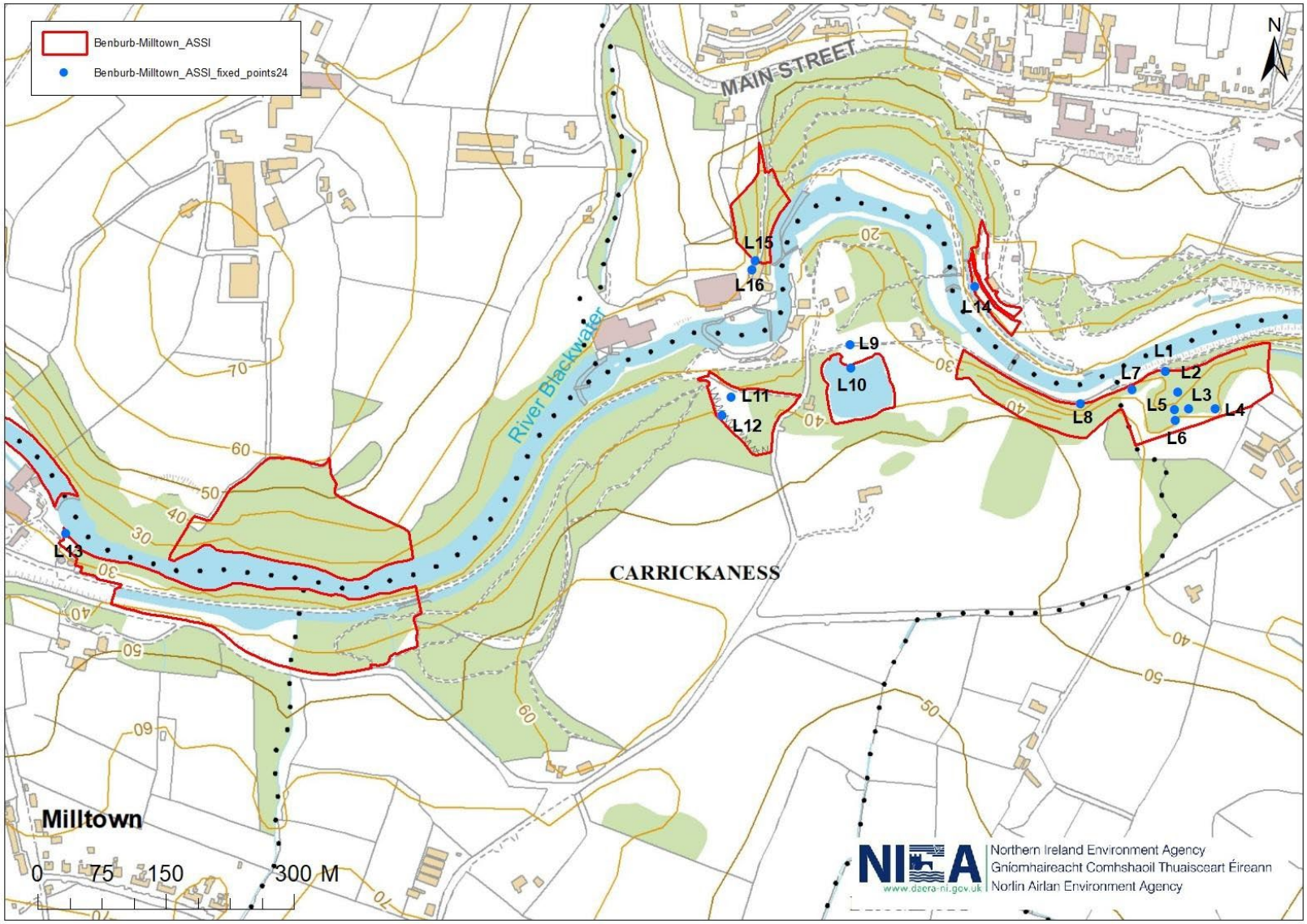
12. Appendix 2 – Maps

Map 1 – Benburb-Milltown ASSI Location

Back



Map 2 – Benburb-Milltown ASSI fixed point photo locations 2024.



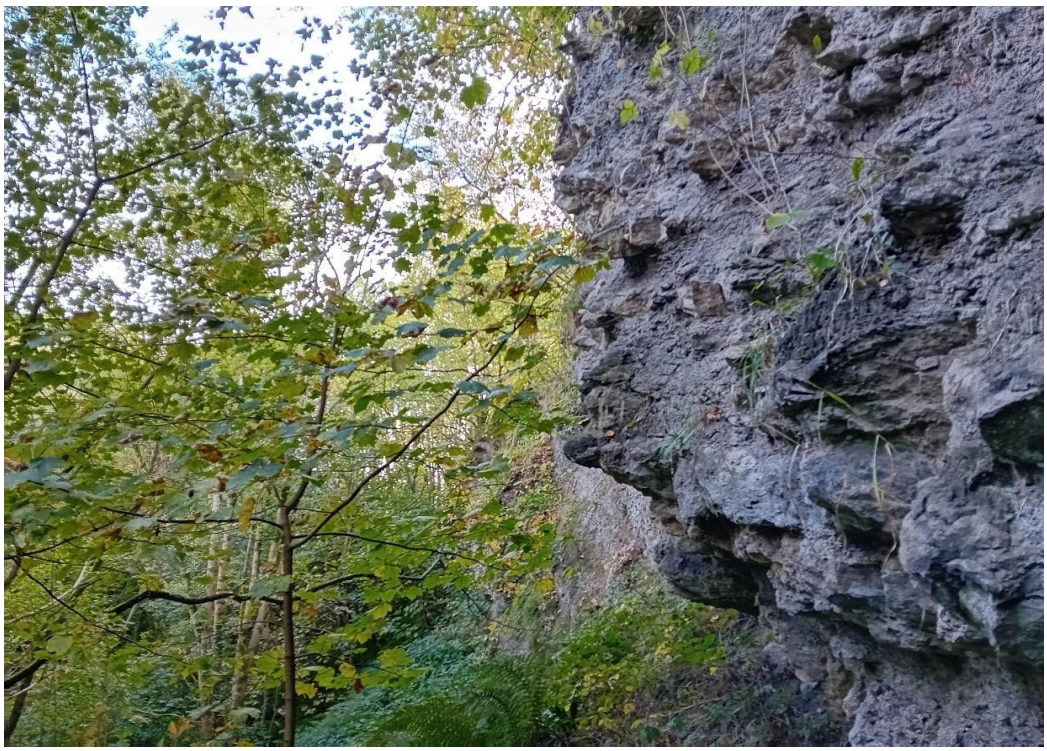
13. Appendix 3 – Photographs.



L1. Entrance to quarry in Maydown Limestone Formation – extensive scrub vegetation.



L2. Maydown Limestone exposure in quarry face.



L3. Looking east along quarry face.



L4, photo 1. Looking west along quarry face.



L4, photo 2. Looking east along quarry face.



L5. Looking east – eastern extent of visible outcrop.



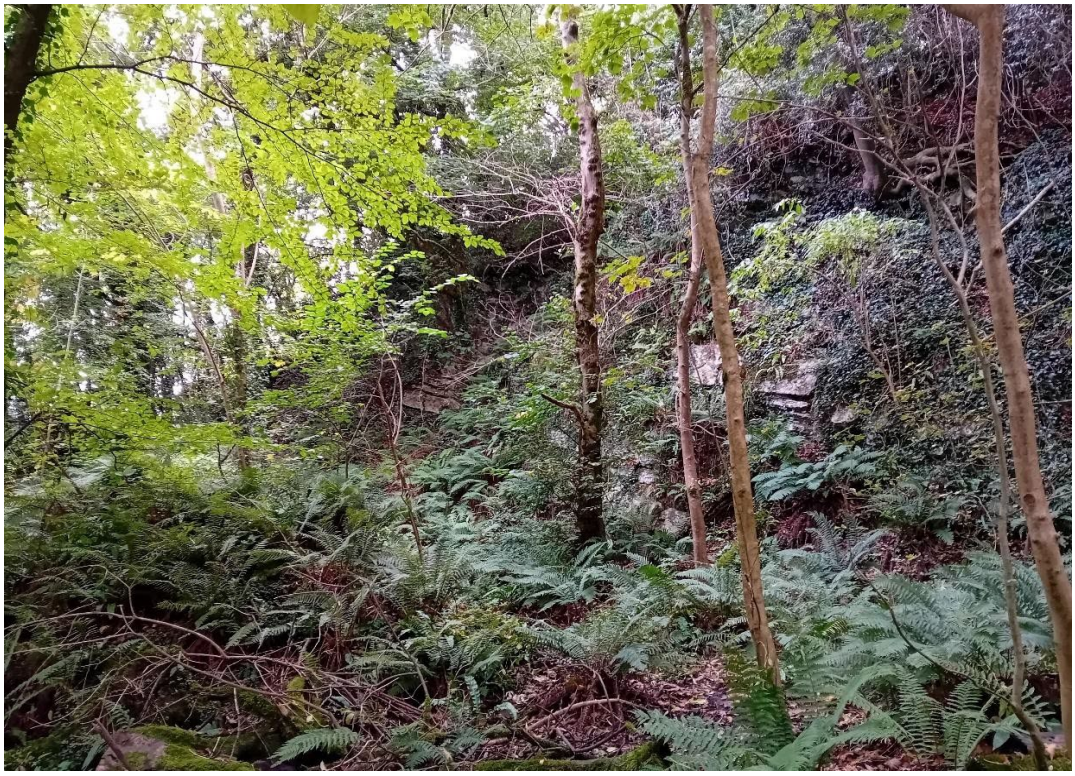
L6. Western side of quarry outcrop.



L7, photo 1. Maydown Limestone exposure beside path.



L7, photo 2. Colonial coral exposed in outcrop.



L8, photo 1. Looking east – exposures beside path.



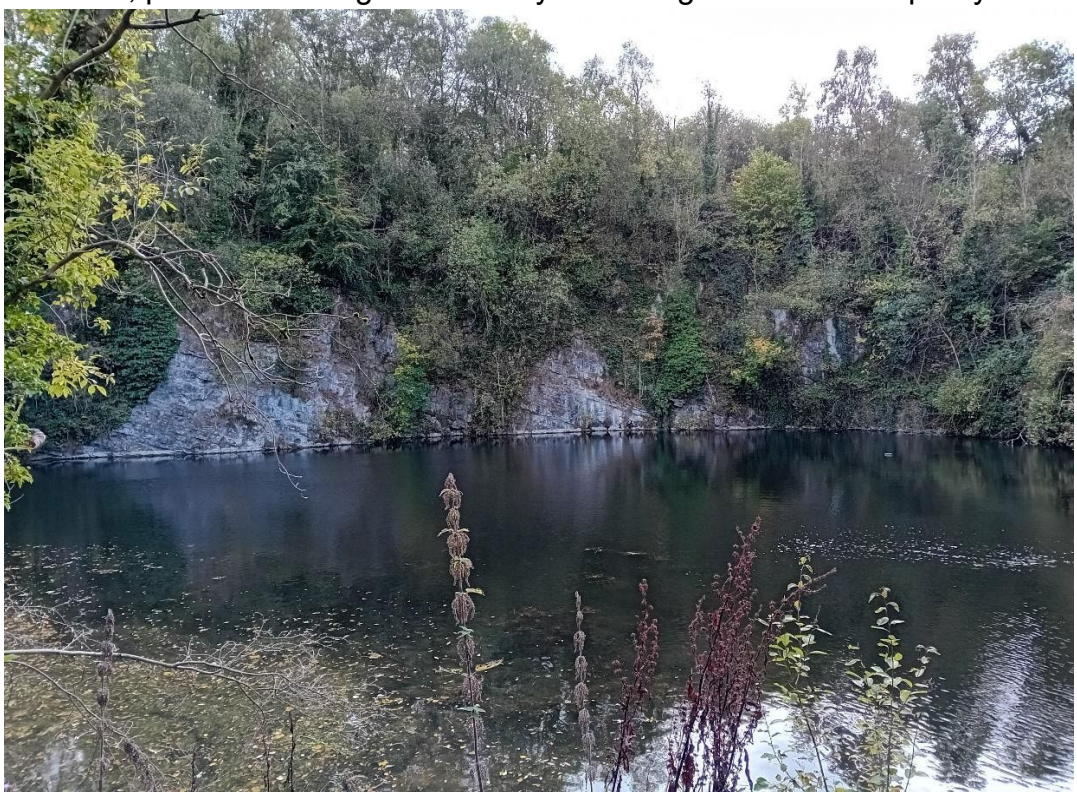
L8, photo 2. Looking west – exposures beside path.



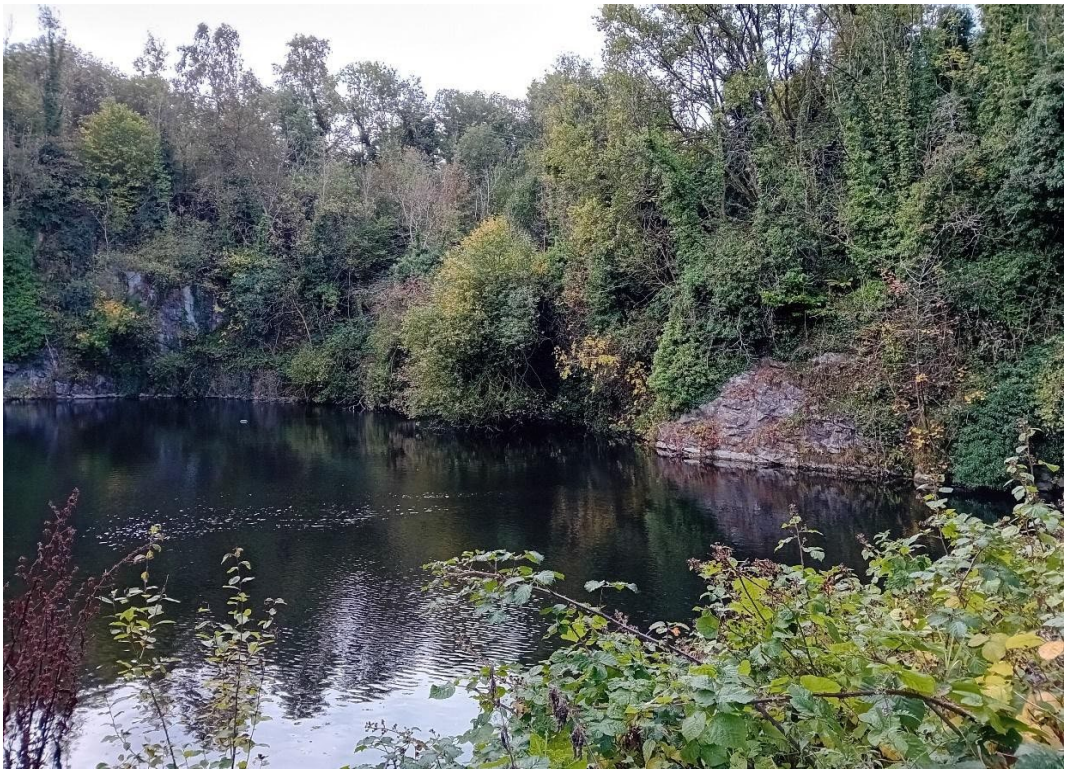
L9, photo 1. Poor quality exposure beside path (outside ASSI).



L9, photo 2. Damaged boundary fence & gate at flooded quarry.



L10, photo 1. Looking southeast – flooded quarry.



L10, photo 2. Looking southwest - flooded quarry.



L11. Entrance to former quarry – car park has been constructed.



L12. Exposures in former quarry.



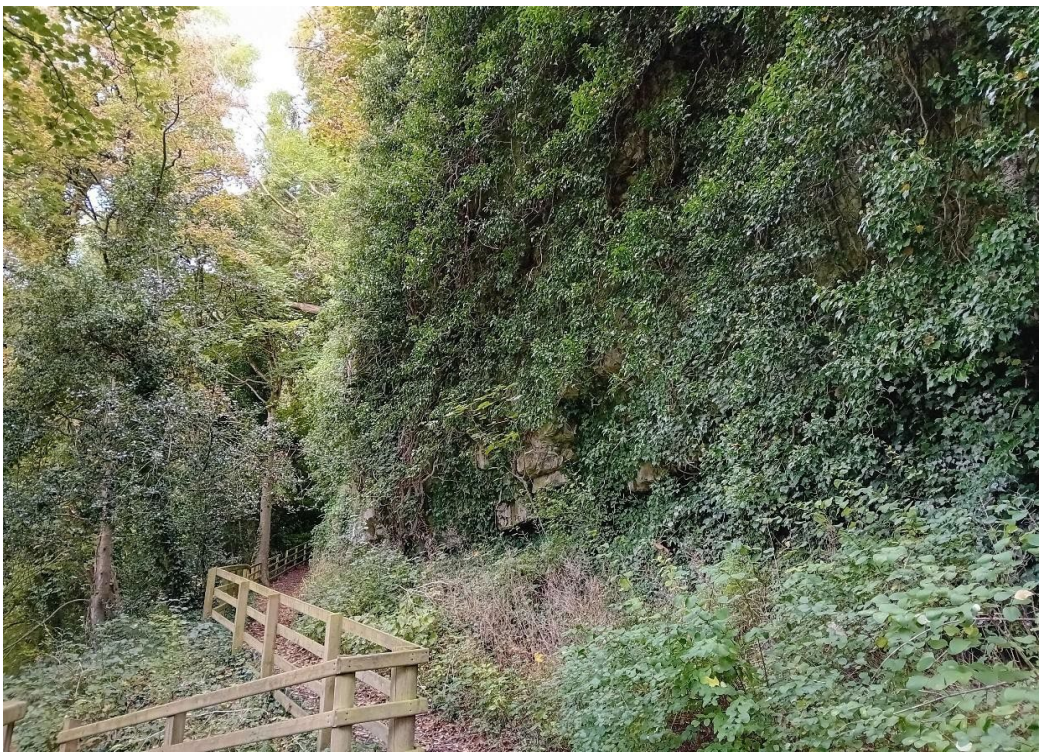
L13, photo 1. River Blackwater (Triassic). Looking downstream – exposures in banks potentially accessible.



L13, photo 2. River Blackwater (Triassic). Looking upstream – exposures in banks potentially accessible.



L14, photo 1. Looking west – exposure extent beneath Benburb Castle.



L14, photo 2. West end of exposure beneath Benburb Castle.



L14, photo 3. Looking east - exposure beneath Benburb Castle.



L15. Small exposure area.



L16. Looking north at exposure at L15.

14. Appendix 4 – Survey dates

Table 7: Survey dates and plots monitored

Survey date	Survey Staff	Team days		
			Total	Feature types
09/10/24	MD	1	15	Carboniferous stratigraphy
			1	Triassic stratigraphy
			16	

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