

NEA/NERAWP

Environmental Appraisal of Aggregates Supply Scenarios for North East England

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CONTENTS

1	ENVIRONMENTAL APPRAISAL OF T HE NORTH EAST	1
1.1	INTRODUCTION	1
1.2	COMMENTS ON THE ENVIRONMENTAL APPRAISAL GUIDANCE	1
1.3	PURPOSE OF THE ENVIRONMENTAL APPRAISAL	2
2	POLICY APPRAISAL	3
2.1	INTRODUCTION	3
2.2	IDENTIFICATION OF RELEVANT POLICIES	3
2.3	COMPLETION OF THE POLICY APPRAISAL MATRIX	4
2.4	EVALUATING POLICY	6
3	CONSTRAINTS MAPPING	11
3.1	INTRODUCTION	11
3.2	DEVELOPMENT OF CONSTRAINTS MAPS	11
3.3	KEY CONSTRAINTS	12
4	APPRAISAL OF SCENARIOS	14
4.1	INTRODUCTION	14
4.2	SCENARIO APPRAISAL QUESTIONS	14
4.3	SCENARIO APPRAISAL WORKSHEETS	14
4.4	RESULTS OF THE SCENARIO APPRAISAL	27
5	RESULTS OF THE APPRAISAL AND RECOMMENDATIONS	30
5.1	INTRODUCTION	30
5.2	RESULTS OF THE APPRAISAL	30
5.3	RECOMMENDATIONS	31

Annex A: Policy Appraisal Matrices

Annex B: Constraint Maps

1.1 INTRODUCTION

This report presents the findings of the Environmental Appraisal of aggregates supply scenarios for the North East.

The appraisal has been carried out in accordance with the “Good Practice Guidance on the Environmental Appraisal of the Provision of Aggregates” issued in 2004 by the Office of the Deputy Prime Minister (ODPM). This report is structured in accordance with the steps set out in ODPM’s guidance. The scenarios for the provision of aggregates that have been appraised are those developed by the NERAWP. These are in line with the policies on minerals set out in the draft Regional Spatial Strategy (RSS).

Due to their extensive nature, a number of the appraisal matrices and also the constraint maps produced as an integral part of the appraisal are presented in annexes to this report.

The structure of the report is as follows:

- Policy Appraisal (*Section 2*)
- Constraints Mapping (*Section 3*)
- Appraisal of Scenarios (*Section 4*)
- Results of the Appraisal and Recommendations (*Section 5*)
- Policy Appraisal Matrices (*Annex A*)
- Constraint Maps (*Annex B*)

This report incorporates feedback from NERAWP members on a draft report of this appraisal.

1.2 COMMENTS ON THE ENVIRONMENTAL APPRAISAL GUIDANCE

The appraisal guidance issued by ODPM is quite recent and there has been relatively little experience of its application. Whilst the methodology which it proposes is organised in a series of logical steps it often requires information that is difficult to obtain. In addition, the case study examples it provides are of little relevance to the North East.

As the authors themselves are at pains to point out the appraisal methodology has a number of limitations and assumptions. Where we have encountered difficulties in applying the ODPM methodology these are indicated in the text of the report.

Section 1.4 of the ODPM Guidance sets out the government's views on the purpose of the appraisal. It is intended to be a "structured method for decision-makers in evaluating a choice of possible supply scenarios". The various steps in the method are intended to be transparent and replicable to allow the thought processes behind the appraisal to be clear.

It should be noted that it is not the purpose of the appraisal to identify a preferred option. The objective of the appraisal is to assist decision makers in their thinking on the likely environmental implications of the possible supply scenarios.

Each of the key stages in the appraisal process is described in greater detail in Sections 2, 3 and 4 of this report.

This appraisal has followed each of the steps indicated in the Guidance and applied them to each of the 3 scenarios developed for the supply of aggregates in the region.

The methodology uses a weighting or scoring system that can be adjusted to regional or sub-regional priorities. Speaking of the scoring system the Guidance has the following to say:

"The scoring system adopted should be considered as an evaluation of relative strengths and weaknesses of each of the scenarios. It is a quasi-numerical system which allows 'scores' to be attached to indicate the relative degree of impact upon a particular aspect of the environment".

This appraisal has adopted a scoring system that is in line with ODPM's guidance but we have strong reservations as to the usefulness of the scoring approach. This is discussed in greater detail in the relevant section of the appraisal.

As noted in Section 1.7 of the Guidance, the environmental appraisal methodology has been designed to be compatible with SA/SEA. The outputs from this appraisal could be useful inputs to SA/SEA in the North East at regional and sub-regional level.

It should be noted that many of the issues assured in this appraisal have also been integral to the SA/SEA of the draft Regional Spatial Strategy (RSS).

2.1 INTRODUCTION

This is the first part of the appraisal methodology set out in the ODPM guidance. It consists of a number of interrelated tasks which, although they are sub-divided in the guidance, can be carried out as a single activity. The key steps are as follows:

- Identification of the relevant policy or policies;
- Completion of the Policy Appraisal Matrix (PAM); and
- Evaluation of policies using the Policy Objectives Table.

2.2 IDENTIFICATION OF RELEVANT POLICIES

In assessing the policy context for the supply scenarios in the North east it was felt that it was important to look at both the regional and the sub-regional policy context. The region contains a regional framework for the planning of minerals and other spatially significant activities in the RSS but it was equally important to look at the wider sub-regional policy context to ascertain the relationships between minerals policies and environmental protection. This has extended the scope of what is proposed in ODPM's Guidance but has also, we feel, provided a more complete picture of the policy context.

The policy documents reviewed as part of this appraisal are as follows:

- The Regional Spatial Strategy for the North East (consultation draft) 2004;
- City of Sunderland – UDP - 1998
- Gateshead – UDP - 1998
- North Tyneside – UDP - 2002
- Newcastle – UDP - 1998
- County Durham Minerals Local Plan - 2000
- Northumberland National Park Minerals Local Plan - 2000
- Tees Valley Structure Plan - 2004
- South Tyneside UDP - 1999
- Northumberland Minerals Local Plan - 2000

A number of the plans and policies we have examined are in the process of revision or will be superseded by other planning documents in 2006 – 2007. This means that there will be a wholesale revision of these documents in the short terms which raises issues as to the need for another environmental appraisal once the next cycle of plans is in development. Best practice would require the appraisal to be an integral part of the development of those documents. Some of the plans are likely to be subject to SA/SEA.

This appraisal has not appraised District Local Plans or Waste Local Plans although it is recognised that these provide information which may be of relevance to the appraisal of minerals plans. LDDs in particular will in future be subject to SA/SEA which will help to ensure that they take full account of environmental issues.

2.3

COMPLETION OF THE POLICY APPRAISAL MATRIX

Annex A of this report contains the completed Policy Appraisal Matrices for the policy documents reviewed as part of this appraisal.

In general, at both regional and sub-regional level it has been possible to identify policies and objectives of relevance to the environmental appraisal. However, it has, in general, been far less easy to identify guidance on mitigation measures, key performance indicators and reporting requirements. This is hardly surprising given that the majority of the plans and strategies received do not contain any monitoring or evaluation framework and do not appear to be required to demonstrate their impact or performance in terms of indicators etc. This is an overall weakness in the design of the plans and means that their effectiveness cannot be assessed.

The PAM appears to function as a checklist and is useful at that level but as noted above some elements of the PAM appear to be largely redundant. This is due to a weakness in the design of the plans rather than any weakness in the appraisal process.

We have found the PAM useful to check the consistency of issues coverage across plans and to highlight common strengths and weaknesses.

The PAM was used as set out in the ODPM guidance. In terms of Environmental Appraisal Topics, we found that the majority of the topics listed were found in the plans we appraised. However, a number of issues were consistently missing. These were:

- Transport issues;
- Conservation of resources;
- Water abstraction;
- Water management; and
- Other planning issues.

Each of these appraisal topics is discussed below:

- *Transport Issues*

The ODPM template for the PAM indicates three related transport appraisal topics:

1. Transport Capacity/ Access;
2. Transport Mode; and
3. Transportation Distance.

Whilst these issues are often dealt with at least in some way in the plans appraised this is usual in terms of generic transport policies and seldom if ever in relation to minerals in general or specifically in relation to aggregates. Transportation distance in particular seems unlikely to feature in the types of plans reviewed, especially in relation to transportation of aggregates rather than at the level of a general principle to reduce the 'traffic intensity' or 'transport miles' of goods. Even in these cases, given the lack of any monitoring framework, it is difficult to assess the likely effectiveness of such policies.

- *Conservation of Resources*

This issue has not been identified as having any clear relationship to minerals or aggregates policies in the plans that have been appraised. The issue of resource efficiency is important but is not usually made specific to any one sector or activity. The link between resource efficiency and the use of recycled aggregates is not made in the plans. Given that UK government policy on resource efficiency and management of consumption has progressed significantly since the majority of the relevant plans were developed, it is likely that this issue will feature more strongly in the next generation of plans.

- *Water Abstraction*

Effects on water sources or on the quality of supply are not addressed in the plans that have been appraised. These impacts are likely to be site specific and therefore are unlikely to be covered in the types of planning documents that this appraisal reviews.

Insofar as plans often contain policies dealing with water resources and their protection this issue is often covered but not necessarily in the terms set out in the ODPM Guidance.

- *Waste Management*

Again, as described in the ODPM Guidance, this topic is seldom covered in the plans we have reviewed. The quantity of waste produced from the provision of aggregates is not addressed, certainly not in policy terms, and the recovery and recycling of non-primary aggregates is only occasionally dealt with. These are significant issues and perhaps clearer guidance on how these issues should be addressed in plans is necessary or supplementary minerals guidance dealing with these issues should be provided for the next generation of plans.

No reference is made in almost all of the plans reviewed to sectoral guidance at national, regional or local level.

- *Other Planning Considerations*

This appraisal topic has not been relevant to the environment appraisal of aggregates supply scenarios in the North East. It should be noted that CAA requirements may become of relevance because of the proposed expansion of the region's airports.

2.4 EVALUATING POLICY

2.4.1 *Function of this Appraisal Step*

The objective of this stage in the appraisal methodology is to review the PAM(s) to “ensure that the policy document is suitable for the purpose of minerals planning”. Should any omissions be identified at this stage in the appraisal in terms of topic coverage or structure then revisions can be made to the policy.

The ODPM Guidance stipulates that ‘this review can be undertaken at any stage in the life of the minerals planning document, in order to assess whether adopted policies are having the desired outcome’. Such a review is likely to take place as part of the overall review cycle of a strategic planning document such as the Regional Spatial Strategy.

This stage of the appraisal includes the following steps:

- Assessment of the coverage of environmental appraisal topics;
- Assess the policy structure; and
- Make improvements to the original policy.

The basic inputs to this step in appraisal come from the completed PAM. Any boxes within the PAM which contain ‘X’s’ will indicate a weakness in either coverage or structure that needs to be addressed.

Table 2.1 presents the completed Policy Objectives Table from the ODPM Guidance completed in terms of the draft RSS. It has only been completed for the RSS since this is the regional plan which sets out the overall policy framework for minerals and aggregates in the region. In general, for the other plans reviewed, the policy evaluation indicates very good coverage of appraisal topics but more weaknesses in policy structure – as discussed elsewhere in this report this is a more a function of systematic weaknesses in plan design than weakness in terms of minerals policy at sub-regional level.

Table 2.1 Policy Objectives Table

Environmental Appraisal Topic	Objective
Biodiversity and Earth Science	<ul style="list-style-type: none"> • Strategies, plans and programmes should ensure that the region's ecological and geological resources are protected and enhanced to return key biodiversity resources to viable levels. To achieve this, the regions priorities are to: <ul style="list-style-type: none"> – To protect and enhance the regions biodiversity and geodiversity; – Identifying and giving appropriate protection to the region's internationally and nationally important sites for biodiversity and geodiversity. – continue to promote the highest level of protection and enhancement for internationally and nationally important sites and species; – reverse habitat fragmentation and species isolation particularly in Biodiversity Targets Zones; – develop habitat creation/ restoration projects particularly in the priority Habitat Creation and Enhancement Areas; – provide for the expansion and linking of existing habitats and species populations including the creation of semi-natural green spaces in and around urban areas and for habitat restoration; – contribute to improving the region's SSSI's to a favourable condition, by 2010;
Archaeology and Cultural Heritage	<ul style="list-style-type: none"> • Strategies, plans and programmes should seek to conserve and enhance the historic environment of the region by: <ul style="list-style-type: none"> – To protect and enhance the regions cultural heritage and diversity; – Seeking to conserve and enhance the historic buildings, areas, and landscapes of the region; – clearly identifying and assessing the significance of any heritage assets and their vulnerability to change; – using the process of characterisation to understand their contribution to the local environment and to identify options for their sensitive management; – encouraging the refurbishment and re-use of disused or under-used buildings and incorporating them into regeneration schemes; – seeking to preserve, in situ, archaeological sites of national importance and, where appropriate, other archaeological remains of regional and local importance; – Identifying and giving an appropriate degree of protection to historic parks and gardens, battlefields, ancient field systems, green lands trackways, industrial monuments and other unscheduled archaeological sites, which reflects their national or regional importance.
Landscape	<ul style="list-style-type: none"> • Strategies, plans and programmes should: <ul style="list-style-type: none"> – Protect and enhance the quality and diversity of the region's rural and urban land and landscapes; – Promoting an appropriate level of development in the Northumberland National Park and the region's two AONB's, the Northumberland Coast and the North Pennines, and in the tree areas of Heritage Cost, North Northumberland, Durham and East Cleveland; – protect the special qualities of the environment in the nationally designated areas of the Northumberland National Park, and the North Pennines and Northumberland Coast AONBs and uphold their statutory purposes, while recognising their role in a living, working and vibrant countryside. Major development should not take place in these areas except in exceptional circumstances when it can be demonstrated that there is an overriding national need and it could not be located elsewhere; – be informed by landscape character assessments and the content of AONB/ National Park Management Plans to justify the retention or creation of any local landscape designations, guide policy formulation and development control decisions and assist in targeting landscape restoration and environmental improvement schemes; – promote integrated management initiatives to sustain nationally,

Environmental Appraisal Topic	Objective
	regionally and locally valued landscapes, including the County Durham, North Northumberland and North Yorkshire and Cleveland Heritage Coasts and urban fringe landscapes
Land Take	No policy objectives identified.
Rehabilitation	– To reclaim and reuse derelict land to make productive use of land;
Countryside	No policy objectives identified but see landscape.
Human Health and Amenity	– To ensure good local air quality for all; – To improve health and well being while reducing inequalities in health;
Transportation	<ul style="list-style-type: none"> • Local Transport Plans and other strategies, plans and programmes should: <ul style="list-style-type: none"> – To ensure good accessibility for all to jobs, facilities, goods and services in the region particularly by public transport, walking and cycling; – Seeking to preserve, in situ, archaeological sites of national importance and, where appropriate, other archaeological remains of regional and local importance; – Prioritise strategic freight movements, alongside strategic passenger movement on the Regional transport Corridors; – Promote the efficient local delivery of freight by reallocating road space to freight uses, where appropriate, particularly in the conurbations; – Prioritise the development of new services and multi-model freight interchange capacity at existing operational facilities, including rail-connected ports.
Extent of Remaining Landbank	No policy objectives identified
Conservation and Protection of Resources (including water, energy, etc.)	<ul style="list-style-type: none"> • Strategies, plans and programmes should: <ul style="list-style-type: none"> – To reduce the causes and the impact of climate change, particularly maximising renewable energy generation and energy efficiency in buildings; – To make better use of our resources – ensure that new developments are located and designed to minimise energy consumption; – facilitate the generation of at least 10% of the region's consumption of electricity from renewable sources within the region by 2010 (454 MW minimum installed capacity); – aspire to further increase renewable electricity generation to achieve 20% of regional consumption by 2020
Water and Groundwater Resources	<ul style="list-style-type: none"> • Strategies, plans and programmes should: <ul style="list-style-type: none"> – To protect and enhance the quality of the region's ground, river and sea waters – integrate the objectives of emerging and existing plans and strategies which consider the wider management of water bodies, groundwater and coastal/marine areas; – ensure that the construction and use of new development along river corridors takes account of: its potential polluting effects; any opportunities for improvements and conservation of water quality; the possibility of flooding onsite and upstream; the availability of water resources; biodiversity; the impacts of climate change and the incorporation of necessary adaptation and mitigation measures; – ensure, where appropriate, that Sustainable Drainage System techniques are adopted; – set a positive policy framework for delivering plans for: Integrated Coastal Zone Management; River Basin Management; Shoreline Management; and Catchment Flood Management for the region's coastal,

Environmental Appraisal Topic	Objective
	<p>estuarine and near shore zones; and</p> <ul style="list-style-type: none"> – require development proposals within flood risk areas to be accompanied by Flood Risk Assessments to evaluate the extent of the risk before the commitment to a site or project. Such flood risk assessments should be submitted to the local planning authority to assist in the determination of any related planning applications; – avoid development in functional floodplains, washlands, and in undeveloped floodplain areas where the risk from tidal and fluvial flooding is high; – restore natural flood storage capacity through works such as blanket bog restoration in the uplands and restoration of floodplain storage function in appropriate locations on floodplains; – ensure, where appropriate, that Sustainable Drainage Systems and other techniques are adopted to reduce flood risk; – in previously developed areas and areas of undeveloped floodplain where the risk from flooding is lower, development should be of an appropriate type and design and require the availability or provision of an appropriate standard of flood defence and the incorporation of flood mitigation and/or flood warning measures;
Waste Management	<ul style="list-style-type: none"> • Strategies, plans and programmes should give priority to initiatives which encourage actions to: <ul style="list-style-type: none"> – To reduce the amount of waste reduced and increase the amount recycled – develop and implement waste minimisation plans and schemes; – implement waste awareness and education campaigns; – developing reuse schemes; and – minimise the use of primary construction materials and the production of waste; • and should be based on the following key principles: <ul style="list-style-type: none"> – the waste hierarchy with minimisation at the top, then reuse, recycling, composting, waste to energy and landfill; – the proximity principle; – regional, and where appropriate, sub-regional self-sufficiency; and, – the aims of the regional waste management strategy for the North East.
Management Measures	No policies identified.
Other Planning Considerations	No policies identified

2.4.2

Results of the Policy Evaluation

From a review of *Table 2.1* it can be seen that the policy framework relating to minerals and to the environment in the North East is strong in the following areas:

- Biodiversity and geodiversity;
- Archaeology and cultural heritage;
- Landscape (and countryside);
- Transportation (albeit little directly related to minerals);
- Conservation and protection resources;
- Water and groundwater resources; and
- Waste management.

These results, interestingly do not always correspond with our analysis of sub-regional plans and policies. Given that those plans are close to being reviewed and revised it is not surprising that there is a need for some 'policy catch up' in comparison with the draft RSS.

3.1 INTRODUCTION

The ODPM Guidance requires that the appraisal produces a map to assist with the selection of supply scenarios. In reality the existence of constraints has already influenced the development of scenarios in the North East via the existing baseline scenario and the draft scenarios that have been refined by the NERAWP.

The Guidance sees the function of the Constraints Map as being ‘to support the decision making process by clearly depicting aggregate resource blocks in relation to the hierarchy of environmental and planning constraints such as National Parks and landscape and ecological designations.’

The Map(s) are an integral part of the Scenario Appraisal stage of the environmental appraisal.

3.2 DEVELOPMENT OF CONSTRAINTS MAPS

Having reviewed the requirements of the ODPM Guidance in terms of the coverage of issues and having reviewed British Geological Society (BGS) data on aggregate resource blocks in the North East, it was decided to produce a series of constraints maps since these would offer a far clearer picture of the existing situation than a map bringing together all of the resource and constraints issues on a single map. A multiple constraints map has been produced but we would question the usefulness of such a map for decision-making purposes.

It was also felt to be useful to have sub-regional maps as well as regional maps once again for reason of clarity and analysis.

These maps are presented in *Annex B* of this report. The maps cover the following issues in addition to the location of aggregate resource blocks:

- Ecological designations;
- Landscape designations;
- Heritage designations;
- Urban areas; and
- Transport routes.

Whilst the constraints maps are accurate for present conditions they will need to be regularly reviewed to ensure that they represent the most up to date picture. They may also need to be updated in the light of new regional plans and strategies relating to the environment.

It is not possible at this scale of assessment to take account of many local specific designations at least in terms of mapping individual data points. Again, it is questionable that mapping such information helps decision-making at this level.

3.3

KEY CONSTRAINTS

Much of the North East has, internationally, nationally as well as regionally important environmental assets and these are recognised by a variety of designations from international to national to regional. These cover landscape, habitats, species and sites and vary in scale from large areas such as National Parks to small individual sites such as SAM's or SSSI's. In general the upland and coastal areas have the highest concentrations of constraints but this has long been recognised by planners in the region and is implicit (to a certain extent) in the design of the aggregates supply scenarios.

In general, no significant new constraints have been identified that seriously alter the picture in terms of the constraints affecting aggregates supply in the region. However, this position will need to be reviewed periodically to take account of new designations that may come forward not least due to the need to take account of long term, large scale, processes such as the need to adapt to climate change. This may lead to the need to designate new areas for nature conservation purposes for example.

3.4

THE EXTENT OF CONSTRAINTS

The maps produced for this appraisal confirm that there are significant environmental constraints throughout the region. When social and economic constraints are added to them then it becomes clear that the options for meeting the region's needs are relatively limited.

In some cases, such as archaeology, the possibility of more constraints being identified via research or 'finds' is a distinct possibility that needs to be factored into the detailed selection of a preferred option.

The Good Practice Guide suggests that the appraisal process should also seek to map local designations. This may be preferable from a theoretical point of view but in practice means that data requirements, the existence of digitised information and the number of points to be mapped preclude these designations being mapped.

This has certainly been the case in this specific appraisal. It should not be inferred however, that these designations are irrelevant to the appraisal process. Information on local designations is of fundamental importance to decisions on minerals planning at the local level.

4 APPRAISAL OF SCENARIOS

4.1 INTRODUCTION

The ODPM Guidance contains Scenarios Appraisal Worksheets (SAW) which form the basis for appraising and comparing the scenarios. The SAW requires the appraisal to develop a series of appraisal questions which can be used to assist in the 'interrogation' of the scenarios in terms of the environmental appraisal topics.

The Guidance also includes a suggested scoring system which can be used to 'score' each of the scenarios in terms of its performance on each of the environmental appraisal topics.

4.2 SCENARIO APPRAISAL QUESTIONS

In deciding how to carry out the scenario appraisal it was considered to be important that the appraisal questions used to appraise each of the scenarios were relevant to the region and were traceable and replicable. For this reason the appraisal questions have been based on objectives within the region's Integrated Regional Framework (IRF). The IRF has been used as the basis of a number of environmental and sustainable development appraisals in the region including the SA/SEA of the RSS. This allows this appraisal to integrate with the appraisal of other key regional strategies and adds to the overall coherence of the appraisal.

4.3 SCENARIO APPRAISAL WORKSHEETS

Tables 4.1 to 4.3 present the SAWs for the three aggregates supply scenarios which have been appraised.

4.4 APPRAISAL ASSUMPTIONS

In carrying out this appraisal we have had to make a number of assumptions that may have affected the outcome of the appraisal. These are as follows:

- that each of the scenarios would be compliant with government objectives and guidance on aggregates supply;
- that each of the scenarios has a detailed evidence base that will allow decision makers to integrate the findings of this appraisal into other analyses of the overall viability of each of the scenarios;
- that none of the scenarios would, if implemented, lead to development within sites that have been designated as being of European or national importance;

- that if developments occur in areas that are subject to local designations then the likely impacts will be assessed via an environmental appraisal or EIA depending on legal requirements;
- that the aggregates policy will be regularly reviewed and will take account of new evidence on the topics covered by the environmental appraisal as they become available;

As stated in the initial section of this report it is not the purpose of this appraisal to recommend a preferred option but to make available to decision-makers information that will help to inform their decision-makeup.

4.5

APPRAISAL SCORING SYSTEM

The OPDM guidance recommends the use of scoring to appraise scenarios. This appraisal has followed the guidance in developing a scoring system which is comparable to those currently used for the SA/SEA of the North East's regional Spatial Strategy and its Regional Economic Strategy.

The Scoring system is as follows:

Key:

0	Neutral impact
-	Minor negative impact relative to base case
+	Minor positive impact relative to base case
++	Major positive impact relative to base case
--	Major negative impact relative to base case
+/- or -/+	Mixed impact
?	Unclear impact

In undertaking this appraisal it has not been easy to provided 'categorical' scores for specific issues let alone complete scenarios. This would, at the very least, have required very detailed evidence both on current impacts and on the likely locations of minerals developing that would constitute the means of delivery each scenario. That evidence base was not available to the appraisal.

Table 4.1 **SCENARIO APPRAISAL WORKSHEET (SAW): SCENARIO 1**
Continuation of the Existing Pattern of Supply

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
Biodiversity and Earth Science	0	<p>It is assumed that there will not be any additional impacts on biodiversity and geodiversity assets under this scenario. The only exception to this assessment would relate to the identification of new designated sites or the creation of new areas designed to facilitate biodiversity gains, habitat links or adoption to climate change.</p> <p>It is assumed that minerals development will not seek derogations from existing legislation or alterations to the scale of designated sites.</p> <p>The process of updating local plans will need to take account of the need to ensure that the minerals policies take account of biodiversity and geodiversity issues.</p> <p>It is important that planning authorities and the aggregates sector have direct access to the most up to date documentation on biodiversity issues and relevant strategies and plans.</p> <p>Opportunities exist where minerals workings are being closed down for proactive habitat and species management/creation actions as well as interpretation opportunities of value to local communities. This also applies to geological features of interest.</p>	<p>To protect and enhance the region's biodiversity (IRF Objective 8)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated areas e.g., NNR's, SSSI's, SACs and SPAs? To what extent does the proposed scenario threaten the qualities of designated areas. To what extent does the proposed scenario threaten species and habitats (ie, BAP species and habitats) of international, national, regional or local significance.
Archaeology and Cultural Heritage	0	<p>It is assumed that there will not be any additional impacts on archaeology and heritage except from the development new sites or the designation of additional sites.</p> <p>New mineral plans or policies within LDFs should recognize the need to protect the region's archaeological and historic environment assets. Existing plans recognize this need.</p> <p>The possible opportunities to create new assets via the presentation and</p>	<p>To protect and enhance the quality and diversity of the region's rural and urban land and landscapes. (IRF Objective 11)</p> <p>To protect and enhance the region's cultural heritage and diversity. (Objective 12)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated sites or areas of archaeological or heritage importance (including individual

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
		interpretation of historical mineral workings or new finds also needs to be recognised.	<p>sites and buildings)?</p> <ul style="list-style-type: none"> To what extent does the proposed scenario threaten the qualities of designated areas?
Landscape	0	<p>The relationships between the areas of highest landscape value and the region's minerals resources is recognized and well understood.</p> <p>New Local plans /LDFs will need to include minerals policies that recognize the need to protect landscape designations. Existing plans recognize the need to manage minerals developments in accordance with the landscape designations.</p> <p>Minerals plans should also recognize the opportunity to bring about landscape enhancements via the restoration of disused or exhausted minerals sites.</p>	<p>To protect and enhance the quality and diversity of the region's rural and urban land and landscapes. (IRF Objective 11)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated areas such as National Parks, AONB's, Heritage Coast, etc? To what extent does the proposed scenario threaten the qualities and character of designated areas?
Land Take	0	There does not seem any reason to conclude that average landtake per tonne of aggregate is likely to vary from the existing average under this scenario or that this will lead to conflicts with the best agricultural land.	<ul style="list-style-type: none"> What is the likely area of land take per tonne of aggregate? To what extent do aggregate resource blocks conflict with areas of the best and most versatile agricultural land?
Human Health and Amenity	0	<p>It seems unlikely that there will be any increased conflict between areas planned for development and planned or existing minerals sites. The development philosophy and proposed allocations within the RSS would suggest that there is little or no potential conflict between this scenario and the spatial development model for the region.</p> <p>At LDF level local authorities will need to make sure that there are no conflicts between housing/development allocations and minerals resources and that where they do exist they are resolved in a way that balances minerals and housing needs.</p>	<p>To ensure everyone has the opportunity of living in a decent and affordable home. (Objective 4)</p> <p>To ensure good local air quality for all. (IRF Objective 5)</p> <p>To improve health and well-being while reducing inequalities in health. (IRF Objective 14)</p> <ul style="list-style-type: none"> To what extent do aggregate resource blocks conflict with current or planned residential areas? What levels of nuisance/ impact on amenity are likely to occur as a result of the proposed scenario? What will the effects of the proposed scenario be on the quality of life to communities?

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
Transportation	0	<p>Given that the baseline case is identical to this scenario it is unlikely that any specific new impacts will arise. At present the transport issues relating to aggregates are not addressed in minerals policies in general or by the RSS. The impacts from transport of aggregates may actually decline in line with improvements in emissions from cleaner fuels/better designed vehicles. It does not seem likely that this scenario will do anything to reduce the 'miles' travelled by aggregates within the region.</p> <p>The development model in both the RSS and the RES is primarily focused on the 'City Regions'. These are also likely to be the focus of aggregates use for construction etc. This suggests that existing transport arrangements impacts are unlikely to change.</p>	<p>To ensure good accessibility for all to jobs, facilities, goods and services in the region. (IRF Objective 15)</p> <ul style="list-style-type: none"> What distance are aggregates likely to travel (on average) to reach their end consumer? Which mode(s) of transport are likely to be used to transport aggregates and does this encourage a more away from road transport towards a modal split?
Extent of Remaining Landbank	0	Existing minerals plans and policies will need to be updated to ensure that impacts are minimized.	<p>To make better use of our resources. (IRF Objective 10)</p> <ul style="list-style-type: none"> To what extent does the proposed scenario minimize impacts on existing landbanks? Will the proposed scenario lead to resource sterilization?
Conservation and Protection of Resources (including water, energy etc.)	+	<p>There is some likelihood that the minerals industry in the region will continue to respond to central and regional government policy initiatives targeted at the minerals sector and industry in general in terms of resource efficiency, waste minimisation, etc. Over the period to 2016 it is likely that the minerals sector will become even more resource efficient.</p> <p>The region is part of national work looking to reduce resource consumption and promote resource efficiency as this work matures it is likely that the region will look more closely at efficiency issues connected with the use of aggregates.</p>	<p>To protect and enhance the quality of the region's ground, river and sea waters. (IRF Objective 6)</p> <p>To reduce the causes and the impacts of climate change. (IRF Objective 7)</p> <p>To make better use of our resources. (IRF Objective 10)</p> <ul style="list-style-type: none"> Is the extraction of aggregates and their processing/handling being carried out in a resource efficient way representing best practice in terms of minimizing atmospheric pollution, water pollution and waste production?
Waste Management	+	It is likely over the timescale of this plan that the industry will take on broad new policies and initiatives relating to waste management and the minimization of waste from minerals	<p>To reduce the amount of waste produced and increase the amount recycled. (IRF Objective 9)</p> <ul style="list-style-type: none"> How much waste is likely

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
		working and processing. Although this scenario is not based on an increased supply of recycled substitute materials, government policies and initiatives i.e., WRAP are likely to mean that increasing use will be made of recycled materials over this period.	to be produced per tonne of aggregate? <ul style="list-style-type: none"> What systems are being applied to minimize the generation of waste? What proportion (or %) of aggregate provision will be supplied from non-primary sources?
Other Planning Considerations	?	No impacts identified. Plans to expand regional airports may need to be reviewed for their impacts on aggregates demand and supply	<ul style="list-style-type: none"> To what extent are resource blocks affected by other constraints, eg, CAA Guidance CAP 680?

Key:

0	Neutral impact
-	Minor negative impact relative to base case
+	Minor positive impact relative to base case
++	Major positive impact relative to base case
--	Major negative impact relative to base case
+/- or -/+	Mixed impact
?	Unclear impact

Table 4.2

SCENARIO APPRAISAL WORKSHEET (SAW): SCENARIO 2

Gradual Cessation of Crushed Rock and Sand and Gravel Extraction in Tyne and Wear with Increases of Crushed Rock Production in Durham and increased production of Sand and Gravel in Northumberland

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
Biodiversity and Earth Science	-/+	<p>Clearly under this scenario sites within Tyne and Wear that could potentially have been affected by minerals working for aggregates are less likely to be impacted.</p> <p>This scenario could lead to a potential increase in levels/scales of impacts on sites in Durham and Northumberland. This will be on a site specific basis and, given, the current guidance and policies in plans relating to biodiversity impacts should be very limited. It will be important to maintain the level of protection in current plans in any new or revised plans.</p> <p>The scale of impact will be highly dependent on specific locations.</p>	<p>To protect and enhance the region's biodiversity (IRF Objective 8)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated areas e.g., NNR's, SSSI's, SACs and SPA's? To what extent does the proposed scenarios threaten the qualities of designated areas. To what extent does the proposed scenario threaten species and habitats (ie, BAP species and habitats) of international, national, regional or local significance.
Archaeology and Cultural Heritage	-/?	<p>This scenario is likely to reduce any potential pressures on sites in Tyne and Wear.</p> <p>This scenario would require a details assessment of potential sites in terms of lily impacts on SAMS and other archaeological sites.</p> <p>The density of such sites in both Durham and Northumberland is far higher than in Tyne and Wear and it will be important that the process of mineral planning identifies sufficient resources to enable planning and monitoring of issues relating to archaeology.</p> <p>The density of sites in Durham and Northumberland means that the potential for impacts is higher.</p> <p>Existing plans and policies offer significant protection to known sites and to sites discovered as a result of development. This level of protection should be carried forward into new or revised plans.</p>	<p>To protect and enhance the quality and diversity of the region's rural and urban land and landscapes. (IRF Objective 11)</p> <p>To protect and enhance the region's cultural heritage and diversity. (Objective 12)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated sites or areas of archaeological or heritage importance (including individual sites and buildings)? To what extent does the proposed scenario threaten the qualities of designated areas?

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
Landscape	-/+?	<p>This scenario is likely to reduce any potential pressures in Tyne and Wear. In both Durham and Northumberland there is potential for increased pressures on areas of national landscape importance (both upland and lowland).</p> <p>Current plans and policies seek to conserve the quality of the region's landscapes. This will need to be carried over into any new or revised plans and policies. Any proposed extensions to existing designations will also need to be reviewed. This will need to take account of locally important landscapes and local landscape designations.</p>	<p>To protect and enhance the quality and diversity of the region's rural and urban land and landscapes. (IRF Objective 11)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated areas such as National Parks, AONE's, Heritage Coast, etc? To what extent does the proposed scenario threaten the qualities and character of designated areas?
Land Take	-/0	<p>In general, it is likely that this scenario will avoid the best agricultural land. This needs to be tested against up to date information on the distribution/quality of agricultural land that is currently lacking for the region. The likely land take per tonne of aggregate will shift in terms of the sub-regions most affected. It is unlikely that the amount of land required will decrease.</p>	<ul style="list-style-type: none"> What is the likely area of land take per tonne of aggregate? To what extent do aggregate resource blocks conflict with areas of the best and most versatile agricultural land?
Human Health and Amenity	+/-	<p>In general this scenario should reduce the potential for conflict between minerals and housing and economic developments – especially in the region's major conurbation.</p> <p>The increased focus on hard rock in Durham relates in the main to upland areas which are relatively less populated than more lowland areas. Where this is not the case, policies have been developed that limit the extent that new or expanded workshops will impinge on existing settlements. Meeting the resource requirements of this scenario will require detailed consideration of likely impacts on communities.</p> <p>In the case of Northumberland, it will be necessary to ensure that new extraction sites and proposed development areas are carefully planned to avoid any potential conflicts, with existing settlements.</p>	<p>To ensure everyone has the opportunity of living in a decent and affordable home. (Objective 4)</p> <p>To ensure good local air quality for all. (IRF Objective 5)</p> <p>To improve health and well-being while reducing inequalities in health. (IRF Objective 14)</p> <ul style="list-style-type: none"> To what extent do aggregate resource blocks conflict with current or planned residential areas? What levels of nuisance/impact on amenity are likely to occur as a result of the proposed scenario? What will the effects of the proposed scenario be on the quality of life to communities?

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
		The focus of the RSS on development in the City Regions suggests that impact on new development should be very limited.	
Transportation	-	<p>The cessation of extraction in Tyne and Wear means that more material will be obtained from areas that are less well-covered by the region's transport network. The need to increase extraction from less well serviced areas is likely to increase reliance on road transport and the levels of heavy transport movements in some rural areas. The distance travelled to end consumers who are likely to be in the more densely populated areas of the region is also likely to increase.</p> <p>The focus on the development in City Regions will reinforce this pattern. Modal split is unlikely to be increased under this scenario.</p> <p>Transport emissions are likely to be higher than in the base case.</p>	<p>To ensure good accessibility for all to jobs, facilities, goods and services in the region. (IRF Objective 15)</p> <ul style="list-style-type: none"> What distance are aggregates likely to travel (on average) to reach their end consumer? Which mode(s) of transport are likely to be used to transport aggregates and does this encourage a more away from road transport towards a modal split?
Extent of Remaining Landbank	-/?	This scenario will lead to increased demands on existing landbanks in Durham and Northumberland. The availability of sustainable resources in Tyne and Wear needs to be carefully assessed in terms of both opportunities and constraints. Issues of sustainability of resources also been to be addressed in Durham and Northumberland. It is not clear to what extent sterilization of minerals resources is an issue in the region. MPAs will need to explore this at both regional and sub-regional level.	<p>To make better use of our resources. (IRF Objective 10)</p> <ul style="list-style-type: none"> To what extent does the proposed scenario minimize impacts on existing landbanks? Will the proposed scenario lead to resource sterilization?
Conservation and Protection of Resources (including water, energy etc.)	-/+	This scenario is likely to lead to increased impacts in connection with transport. However, over the period of the RSS improvements in resource efficiency are likely to continue to be made in the mining, transport and land use of aggregates.	<p>To protect and enhance the quality of the region's ground, river and sea waters. (IRF Objective 6)</p> <p>To reduce the causes and the impacts of climate change. (IRF Objective 7)</p> <p>To make better use of our resources. (IRF Objective 10)</p> <ul style="list-style-type: none"> Is the extraction of aggregates and their processing/handling being carried out in a resource efficient way

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
			representing best practice in terms of minimizing atmospheric pollution, water pollution and waste production?
Waste Management	+	Irrespective of the detail of this scenario improvements in waste management are likely to occur – driven by national legislation and concerns over resource efficiency.	<p>To reduce the amount of waste produced and increase the amount recycled. (IRF Objective 9)</p> <ul style="list-style-type: none"> • How much waste is likely to be produced per tonne of aggregate? • What systems are being applied to minimize the generation of waste? • What proportion (or %) of aggregate provision will be supplied from non-primary sources?
Other Planning Considerations	?	Plans to expand the region's airports may have consequences for the demand and supply of aggregates.	<ul style="list-style-type: none"> • To what extent are resource blocks affected by other constraints, eg, CAA Guidance CAP 680?

Key:

0	Neutral impact
-	Minor negative impact relative to base case
+	Minor positive impact relative to base case
++	Major positive impact relative to base case
--	Major negative impact relative to base case
+/- or -/+	Mixed impact
?	Unclear impact

Table 4.3 **SCENARIO APPRAISAL WORKSHEET (SAW): SCENARIO 3**
Increasing Substitution Scenario, i.e., substitution of land won supply by alternative sources

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
Biodiversity and Earth Science	--/?	The proposed use of marine sand and gravel could have serious potential impacts on coastal and marine biodiversity.	<p>To protect and enhance the region's biodiversity (IRF Objective 8)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated areas e.g., NNR's, SSSI's, SACs and SPA's? To what extent does the proposed scenarios threaten the qualities of designated areas. To what extent does the proposed scenario threaten species and habitats (ie, BAP species and habitats) of international, national, regional or local significance.
Archaeology and Cultural Heritage	0	This scenario would not appear to have any likely significant impacts beyond those associated with the existing supply scenario and scenario 1 (continuation of the existing supply scenario).	<p>To protect and enhance the quality and diversity of the region's rural and urban land and landscapes. (IRF Objective 11)</p> <p>To protect and enhance the region's cultural heritage and diversity. (Objective 12)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated sites or areas of archaeological or heritage importance (including individual sites and buildings)? To what extent does the proposed scenario threaten the qualities of designated areas?
Landscape	0	This scenario would not appear to have any likely significant impacts beyond those associated with the existing supply scenario and scenario 1 (continuation of the existing supply scenario).	<p>To protect and enhance the quality and diversity of the region's rural and urban land and landscapes. (IRF Objective 11)</p> <ul style="list-style-type: none"> To what extent are aggregate resource blocks constrained by designated areas such as National Parks, AONE's, Heritage Coast, etc? To what extent does the proposed scenario

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
			threaten the qualities and character of designated areas?
Land Take	+	This scenario would appear to involve proportionately less landtake due to the increased use of recycled and alternative materials.	<ul style="list-style-type: none"> What is the likely area of land take per tonne of aggregate? To what extent do aggregate resource blocks conflict with areas of the best and most versatile agricultural land?
Human Health and Amenity	0	The impacts on communities from this scenario would not appear to be any different from those associated with the existing pattern of supply.	<p>To ensure everyone has the opportunity of living in a decent and affordable home. (Objective 4)</p> <p>To ensure good local air quality for all. (IRF Objective 5)</p> <p>To improve health and well-being while reducing inequalities in health. (IRF Objective 14)</p> <ul style="list-style-type: none"> To what extent do aggregate resource blocks conflict with current or planned residential areas? What levels of nuisance/ impact on amenity are likely to occur as a result of the proposed scenario? What will the effects of the proposed scenario be on the quality of life to communities?
Transportation	+	<p>This scenario could lead to a relative decrease in the transport intensity of land won supply due to the majority of recycled/alternative materials being generated in urban areas with good access to transport and close proximity to major consumers/markets.</p> <p>However, this may be affected by the economics of aggregate recycling which mean that recycling is only cost-effective in close proximity to end use locations.</p>	<p>To ensure good accessibility for all to jobs, facilities, goods and services in the region. (IRF Objective 15)</p> <ul style="list-style-type: none"> What distance are aggregates likely to travel (on average) to reach their end consumer? Which mode(s) of transport are likely to be used to transport aggregates and does this encourage a more away from road transport towards a modal split?
Extent of Remaining Landbank	+/?	This scenario seeks to increase the use of recycled and alternative materials in the region. It is heavily reliant on the region's ability to identify and bring to market significant amounts of material. The successful implementation of this scenario will require co-ordinated action by the sector, by regional and local	<p>To make better use of our resources. (IRF Objective 10)</p> <ul style="list-style-type: none"> To what extent does the proposed scenario minimize impacts on existing landbanks? Will the proposed scenario lead to resource sterilization?

Environmental Appraisal Topic	Apportionment Scenario		Appraisal questions
	Score	Comments	
		government and by consumers if the anticipated levels of uptake are to be met. The economies of recycling will clearly affect the extent to which recycled materials are able to substitute for primary ones.	
Conservation and Protection of Resources (including water, energy etc.)	+/?	<p>This scenario has the potential to help the region address resource efficiency issues via promotion of the use of recycled materials especially for public works. This would link well with work already being done by the region on waste management and resource productivity. The region has a growing number of businesses in this area.</p> <p>However, the impact of this scenario is heavily reliant on an increased ability to source, market and utilise recycled and alternative materials this will require policy support and initiatives aimed at key users/markets for these materials.</p> <p>It will also be reliant on the cost-effectiveness of recycling aggregates which is in turn dependent on the locations of markets/demand for the product.</p>	<p>To protect and enhance the quality of the region's ground, river and sea waters. (IRF Objective 6)</p> <p>To reduce the causes and the impacts of climate change. (IRF Objective 7)</p> <p>To make better use of our resources. (IRF Objective 10)</p> <ul style="list-style-type: none"> Is the extraction of aggregates and their processing/handling being carried out in a resource efficient way representing best practice in terms of minimizing atmospheric pollution, water pollution and waste production?
Waste Management	++	This scenario has the potential to reduce wastes and also provide uses for what have traditionally been waste materials. The region has established a strong level of expertise in waste management and the sector is being encouraged by ONE, the EIF and others.	<p>To reduce the amount of waste produced and increase the amount recycled. (IRF Objective 9)</p> <ul style="list-style-type: none"> How much waste is likely to be produced per tonne of aggregate? What systems are being applied to minimize the generation of waste? What proportion (or %) of aggregate provision will be supplied from non-primary sources?
Other Planning Considerations	?	The proposed expansion of the region's airports may have consequences for aggregates supply and demand.	<ul style="list-style-type: none"> To what extent are resource blocks affected by other constraints, eg, CAA Guidance CAP 680?

Key:

0	Neutral impact
-	Minor negative impact relative to base case
+	Minor positive impact relative to base case
++	Major positive impact relative to base case
--	Major negative impact relative to base case
+/- or -/+	Mixed impact
?	Unclear impact

The results of the appraisal of the supply scenarios are summarised in the Scenario Comparison Matrix (*Table 4.4*) as recommended in the ODPM Guidance.

Table 4.4 *Scenario Comparison Matrix (SCM)*

Environmental Appraisal Topic	Apportionment Scenario				Appraisal Comments
	Status Quo	Scenario 1: Continuation of the Existing Pattern of Supply	Scenario 2: Gradual Cessation of Crushed Rock and Sand and Gravel, etc	Scenario 3: Increasing Substitution Scenario	
Biodiversity and Earth Science	0	0	-/+	- -/?	In general there should not be any significant new impacts from any of the scenarios as currently proposed. Policies that are already in place concerning the protection of habitats, species and designated sites should be retained. Challenges may occur in the future depending on the need for example to address the implications of climate change on habitats and species in the region and the requirement that this may generation for additional areas to be designated.
Archaeology and Cultural Heritage	0	0	-/?	0	It does not seem likely that the scenarios as currently proposed would give rise to significant additional impacts on archaeological assets or the historic environment. In the case of <i>Scenario 2</i> the exact location of any new mineral developments will be the deciding factor as to whether there are impacts on archaeological or the historic environment. These will be site-specific and cannot be assessed without detailed information on locations.
Landscape	0	0	-/+?	0	In the case of <i>Scenario 2</i> any landscape impacts will depend on the exact locations of any new or expanded minerals sites. It is not possible to assess the potential for impact without detailed information on specific locations.
Land Take	0	0	-/0	+	<i>Scenario 3</i> is likely to have a positive effect on landtake in terms of the benefits of recycled and alternative materials reducing the requirement for new material. In the case of <i>Scenario 2</i> it is unclear what the effects of cessation of operations in Tyne and Wear may be.
Human Health and Amenity	0	0	+/-	0	<i>Scenario 2</i> may provide benefits in that it includes the cessation of minerals working in

					Tyne and Wear, the most heavily developed part of the region and this may provide opportunities for improved amenity/quality of life in those areas in the proximity of minerals operations. It also reduces the potential for conflicts in development areas.
Transportation	0	0	-	+	<i>Scenario 2</i> is likely to lead to increased transport impacts because of the need to transport aggregates further to reach key markets and consumers in the region. <i>Scenario 3</i> , conversely, may have benefits in terms of transport because recycling and additional materials are most likely to occur in proximity to major regional markets/and users.
Extent of Remaining Landbank	0	0	-/?	+/?	It is unclear what the effects of the two scenarios that are not a continuation of the existing pattern of supply would have on the extent of the remaining landbank, although it would appear that <i>Scenario 2</i> would reduce the landbank whilst <i>Scenario 3</i> would have the effect of reducing the rate of erosion of the landbank.
Conservation and Protection of Resources (including water, energy etc.)	0	+	-/+	+/?	In general all of the scenarios are likely to result in benefits in terms of resource efficiency due to pressures and incentives for industry to improve its efficiency during the period up to 2016. In the case of <i>Scenario 3</i> the benefits are potentially more significant if products and markets can be found for the use of recycled/alternative materials at the levels indicated in the scenario. This will require concerned action by a range of key stakeholders. The change in behaviour/ materials use required is quite significant and raises questions over implementation.
Waste Management	0	+	+	++	In general all of the scenarios are likely to deliver benefits in terms of waste management because of existing and proposed policy drivers to improve waste management performance. This should lead to improved waste management performance in the minerals sector. Due to its use of recycled products and alternative materials (which may include materials currently seen as waste or by-products) <i>Scenario 3</i> is likely to offer additional benefits.
Other Planning Considerations	0	?	?	?	It has not been possible to identify any other planning considerations that are likely to influence the impact of the three scenarios.

Key:

0	Neutral impact
-	Minor negative impact relative to base case
+	Minor positive impact relative to base case
++	Major positive impact relative to base case
--	Major negative impact relative to base case
+/- or -/+	Mixed impact
?	Unclear impact

Table 4.4 clearly indicates that there are a number of similarities between the scenarios in terms of the outcome of the environmental appraisal. It also indicates, however, that *Scenarios 2 and 3* have some significant potential differences in comparison to the continuation of supply scenario along with some outcomes that appear likely to be negative or that are uncertain. In some cases, for issues such as waste management or resource conservation, the appraisal has taken into account not only the scenarios per se but also likely policy and performance developments since it seemed logical to do so.

The most significant question raised by the comparison of the scenarios is the extent to which the estimates of recycled and alternative materials are a sound basis on which to forecast likely sources of aggregates in the region. The evidence base for both supply and take up appears limited. The economics of recycling and the implications this has for end use do not appear to have been factored into the scenario. It seems likely that policy and practical support would be necessary to stimulate both the supply and uptake of recycled and alternative materials. As with all recycled goods markets and prices will be fundamental to deliverability.

The crucial difference in the scenarios are spatial, in the case of Scenarios 1 and 2 and source-driven in the case of Scenario 3. At a regional scale the environmental inputs are broadly similar but require detailed assessment at the level of individual sites. However, at sub-regional level, the impacts, not surprisingly have different distributions.

The ODPM guidance does not provide a mechanism that allows this appraisal to look at issues of environmental equity. However, the benefits of aggregate use are likely to be more readily appreciated in areas of end use and the impacts most keenly felt in areas of supply. This is effectively the status quo except that under Scenario 2 the proportion of potential impacts on the environment increases for Durham and Northumberland.

From a sustainable development perspective it would be useful for the NERAWP to carry out a sustainability appraisal of these scenarios to identify whether the social and economic benefits of any of the scenarios are likely to be distinctive in terms of the benefits to areas of supply.

Scenario 3 would appear to require far more detailed data on the economies of supply and demand around the recycling of aggregates before its true benefits can be assessed.

A detailed environmental appraisal would require a far more detailed evidence base for each of the scenarios as well as for the base case. Should more detailed assumptions and predictions become available then we would recommend that further appraisals are carried out.

5.1 *INTRODUCTION*

This section of the appraisal report deals with two issues:

- the results of the appraisal (including comments on the appraisal methodology); and
- recommendations to RANE and the NERAWP.

It is important to recognise, as has been stated elsewhere in this report, that it is not the objective of the appraisal to identify a preferred option but to offer information to decision makers to inform their decisions.

5.2 *RESULTS OF THE APPRAISAL*

The appraisal has identified a number of similarities and also a number of significant differences between the 3 scenarios put forward for appraisal. Perhaps most importantly, the appraisal has also identified areas of opportunity from an environmental perspective.

The use of the region's IRF as the basis of the appraisal framework has greatly facilitated the appraisal process and has also ensured a level of coherence with other assessments and appraisal based on the IRF.

The development of the PAM's has provided a useful overview of the regional and sub-regional planning context for the provision of aggregates even though all of the plans that have been appraised (with the exception of the RSS) are due to be reviewed in the short term.

In terms of the appraisal methodology itself we would make the following comments:

- The guidance is easy to follow and to implement;
- Data for constraints mapping is not always readily available in digitised form, especially geological data;
- Access to geological data can be a problem;
- Much of the PAM, especially in terms of KPI's and reporting was redundant in this appraisal;
- The SAW relies heavily on the existence of clear and relevant objectives from a regional document such as the IRF;
- The evidence base and rationale for scenarios needs to be quite detailed for the appraisal methodology to be most effective; and
- A focus on the environment rather than on sustainable development is very limiting.

When taking account of the findings of this appraisal the following issues should be taken into account:

- The need to develop policies and initiatives to encourage aggregates recycling and the use of alternative materials if this option is pursued. This should be reviewed in the light of policies/action in the RSS and the RES. These should be linked to regional initiatives targeting the waste management sector and the environment sector;
- The need to carry out periodic reviews of the chosen scenario against developments in regional and national policy and strategy relating to waste management, climate change, the environment and minerals; and
- The need to review new plans of relevance to minerals planning as they emerge in terms of their likely impact on the preferred supply scenario.

The overall conclusion from this appraisal is that it is unlikely that environmental issues are likely to be 'make or break' in terms of choosing the preferred option for the region. What is more likely to prove significant is the location of these impacts rather than the impacts themselves ie the distribution of impacts between sub-regions rather than the impacts themselves.

Not surprisingly, a continuation of the status quo appears to raise fewer concerns than the changes in locations and source of supply proposed in Scenarios 2 and 3.

The region has chosen a development model in the RSS and the RES that focuses on the City Regions, this is helpful in focusing the spatial demand for aggregates. It does not, however, resolve the differential impacts between areas of demand and areas of supply within the region. These issues of differential impacts have been highlighted by stakeholders during this appraisal and will need to be addressed whichever option is selected. .

Annex A

Policy Appraisal Matrices (PAM)

- The Regional Spatial Strategy for the North East;
- City of Sunderland – Adopted Unitary Development Plan
- Gateshead - UDP
- North Tyneside – UDP
- Newcastle - UDP
- County Durham Minerals Local Plan
- Northumberland National Park Minerals Local Plan
- Tees Valley Structure Plan
- South Tyneside – UDP
- Northumberland Minerals Local Plan

POLICY APPRAISAL MATRIX (PAM)
Regional Spatial Strategy

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference: Policy 43	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	Policy 43	✓	Policy 2 of the RSS Policy 9 of the RSS Policy 35 of the RSS Section 3.87 of the RSS	Policy 43 ✓		✓	Policy 35 of the RSS			<p>The RSS includes a number of indicators relating to biodiversity and geo-diversity. The most relevant indicators are presented below.</p> <p>Outcome:</p> <ul style="list-style-type: none">To return key biodiversity resources to viable levels (targets set out in annex X of RSS “North East Biodiversity Targets, Habitats and Species’). (Out put Target)To develop landscape scale habitat creation projects in the priority ‘habitat creation and enhancement areas’. (Output Target)To bring into a favourable condition by 2010, 95% of all national important wildlife sites in the region (including unfavourable recovering, and favourable). (Output Target) <p>Indicator</p> <ul style="list-style-type: none">Progress towards achieving the North East’s Biodiversity targets for habitats and species. (Process Indicator)

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference: Policy 43	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
											<ul style="list-style-type: none"> Number of landscape scale habitat creation projects, and number taking place within the habitat creation and enhancement areas. (Output indicator). Proportion of the region's area (ha) of SSSI's in a favourable condition. (Contextual indicator). Proportion of the region's areas of SSSI's in an unfavourable condition but recovering. (Contextual indicator) Change in areas of biodiversity importance, including: <ul style="list-style-type: none"> Priority Habitats and Species (by type): and Areas designated for their intrinsic environmental value including sites of international, national, regional or sub-regional importance (Regional Core sub-indicators). <p>These indicators may prove useful in monitoring the relationship between aggregate resource wining and biodiversity in the region. No specific reporting requirements are indicated.</p>

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference: Policy 43	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Archaeology Designated sites impacted by workings and associated infrastructure	✓		✓	Policy 2 of the RSS Policy 9 of the RSS Policy 34 of the RSS	✓		X	X	X	X	Policies relating to the historic environment, in particular historic landscapes, are of relevance to archaeology but no specific reference is made to archaeological sites or reporting requirements relating to such sites.
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓		✓	Policy 2 of the RSS Policy 6 of the RSS Policy 9 of the RSS Policy 34 of the RSS	✓		✓	Policy 34 of the RSS	X	X	The RSS lists a number of indicators relating to the historic environment. The majority of these relate to buildings and are less relevant to this appraisal. The most relevant indicator is 100% of Local Development Frameworks to reflect, where appropriate historic landscape characterisation and include policies to protect and enhance historic landscapes. No reporting requirement is indicated. The indicator provided is % of historic landscapes designated in Local Development Frameworks, this could be useful in monitoring effects of aggregates winning on historic landscapes where this is a relevant issues.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference: Policy 43	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Landscape Designated sites impacted by workings and associated infrastructure	✓		✓	Policy 2 of the RSS Policy 9 of the RSS Policy 33 of the RSS	✓		✓	Policy 33 of the RSS	X	X	Although the RSS lists an indicator relating to the landscape character and the review of landscape designations within the context of the LDF process (100% of Local Development Frameworks to review existing designations on the basis of local landscape character) neither a baseline nor a reporting requirement is indicated.
Land Take Protection of Best and Most Versatile Land	?		?	Policy 2 of the RSS	?		X	X	X	X	
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓		✓	Policy 2 of the RSS	✓		✓	Policy 43	X	X	The monitoring framework relating to Policy 43 of the RSS requires that 100% of LDF's with policies on minerals should contain policies concerning the effective management of sites, high quality restoration and aftercare, and beneficial after use. The indicator is the % of LDF's that achieve this outcome. No reporting requirement is set out in the RSS except with reference to the published versions of LDF's.
Countryside Access and amenity	✓		✓	Policy 2 of the RSS	✓		X	X	X	X	No specific indicators / monitoring requirements.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference: Policy 43	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Human Health and Amenity Nuisance due to workings and associated infrastructure	✓		✓	Policy 2 of the RSS	✓		✓	Policy 43 of the RSS	X	X	The monitoring framework relating to Policy 43 would appear to address these issues under the heading “effective management of sites”. However, the working is not explicit in terms of human health and nuisance.
Transport Capacity/ Access General transport capacity and access issues	✓		✓	Policy 2 of the RSS Policy 11 of the RSS	✓	Policy 55 Policy 56 Policy 57 of the RSS	✓	Policy 55 Policy 56 Policy 57 of the RSS	X	X	Policies 55, 56 and 57 of the RSS seek to achieve specific outcomes in terms of access and connectivity and also sustainable freight distribution. The least of these in particular, could be of relevance to the transport of aggregates, modal split, etc. The indicators could be made relevant to aggregates but at present this would be best be a sub-set of a much broader indicator.
Transport Mode Modal split for transport of aggregates	✓		✓	Section 3.144 Policy 57 Of the RSS	✓	Policy 57 of the RSS	✓	Policy 57 of the RSS	X	X	Policies 55, 56 and 57 of the RSS seek to achieve specific outcomes in terms of access and connectivity and also sustainable freight distribution. The least of these in particular, could be of relevance to the transport of aggregates, modal split, etc. The indicators could be made relevant to aggregates but at present this would be best be a sub-set of a much broader indicator.

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference: Policy 43	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Transportation Distance Distance of required transport to customer	X		?	Policy 2 of the RSS Policy 57 of the RSS	X	X	✓	Policy 57 of the RSS	X	X	Policies 55, 56 and 57 of the RSS seek to achieve specific outcomes in terms of access and connectivity and also sustainable freight distribution. The least of these in particular, could be of relevance to the transport of aggregates, modal split, etc. The indicators could be made relevant to aggregates but at present this would be best be a sub-set of a much broader indicator.
Extent of Remaining Landbank	✓		✓	Section 3.144 Policy 43 of the RSS	✓	Policy 43 of the RSS	✓	Policy 43 of the RSS	X	X	The monitoring framework for Policy 43 of the RSS includes a requirement that LDF's allocate adequate land "to contribute towards local, Regional and national needs'. The indicator used for this outcome is "Amount of land allocated for regionally specific minerals".
Conservation of Resources Water, energy mix and consumption, etc.	✓		✓	Policy 2 of the RSS Policy 43 of the RSS	✓	Policy 43 of the RSS	✓	Policy 43 of the RSS	X	X	The monitoring framework of the RSS requires 100% of LDF's with minerals policies to contain policies that set out requirements for the effective management of minerals sites. The relevant indicator is the % of LDF's that contain such policies. No monitoring or reporting requirements are indicated.
Water Abstraction Extraction source and quantity	✓		✓	Policy 2 of the RSS Policy 36 of the RSS	✓	Policy 36 of the RSS	X	X	X	X	

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference: Policy 43	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Water Pollution Discharges to controlled water	✓		✓	Policy 2 of the RSS Policy 36 of the RSS	✓	Policy 36 of the RSS	✓	Policy 36 of the RSS	✓	Policy 36 of the RSS and RSS Monitoring framework work.	The monitoring framework for Policy 36 has the objective of zero negative impacts on the recreational and environmental qualities of the region's water bodies. The associated indicator is the number of pollution incidents along the region's rivers and coastal areas. Reporting of such incidents would occur via a number of routes.
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure	✓		✓	Policy 2 of the RSS Policy 36 of the RSS	✓	Policy 36 of the RSS	X	X	X	X	The monitoring framework for Policy 36 of the RSS does not cover groundwaters.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference: Policy 43	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Waste Management Quantity of waste produced from provision of aggregate. Non-primary aggregates recovered and recycled	✓		✓	Policy 2 of the RSS Policies 46 and 47 of the RSS	✓	Policies 46 and 47 of the RSS	X	X	X	X	Although policies 46 and 47 contain some elements that may be broadly of relevance to this appraisal topic there is no clear link to aggregates or minerals in the monitoring framework.
Management Measures Dust, water quality, hazardous substances controls	✓		✓	Section 3.144 Policy 43 and 48 of the RSS	✓	Policy 43 and 48 of the RSS	✓	X	X	X	Policy 43 requires ‘effective management’ of minerals sites and is therefore relevant. Policy 48 relates to the management of hazardous wastes and would be relevant to the management and disposal of hazardous substances associated with aggregates.
Other Planning Considerations (Birdstrike Prevention) Compatibility with CAA requirements	?		?		?						

POLICY APPRAISAL MATRIX (PAM)
City of Sunderland – Adopted Unitary Development Plan

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	Policy CN1 Policy CN18 Policy EN12	✓	*1 – Alistair – no attached note sent	☀	☀	☀	☀	☀	☀	
Archaeology Designated sites impacted by workings and associated infrastructure	✓	Policy B11 Policy B12 Policy B13 Policy B14 Policy CN1 Policy M8 Policy M14	✓								

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓	Policy B3 Policy CN1 Policy CN18 Policy CN19 Policy CN20 Policy CN21 Policy CN22 Policy CN23 Policy M8 Policy M14 And potentially: Policy B4 Policy B5 Policy B6 Policy B8 Policy B9 Policy B10 Policy M8 Policy M14	✓								
Landscape Designated sites impacted by workings and associated infrastructure	✓	Policy CN1 And potentially Policy CN13 Policy CN14 Policy B18 Policy M8	✓								

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Land Take Protection of Best and Most Versatile Land	✓	Policy CN8 Policy M8 Policy M14	✓								
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓	Policy EN16 Policy CN3(v) Policy M8 Policy M9 Policy M13	✓								
Countryside Access and amenity	✓	Policy CN1 Policy CN2 Policy CN7 Policy CN10 Policy M8 Policy M14									
Human Health and Amenity Nuisance due to workings and associated infrastructure	✓	Policy EN5 Policy EN6 Policy EN10 Policy M8 Policy M9	✓								Policies EN5 and EN6 relate primarily to development and construction but could also be relevant to aggregate workings sites.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Transport Capacity/ Access General transport capacity and access issues	✓	Policy M8 Policy M14	✓								
Transport Mode Modal split for transport of aggregates	✓	Policy M8	✓								
Transportation Distance Distance of required transport to customer	X	X	X								
Extent of Remaining Landbank	✓	Policy M2 Policy M3	✓	✓							

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Conservation of Resources Water, energy mix and consumption, etc.	✓	Policy EN1	✓	✓							
Water Abstraction Extraction source and quantity	✓	Policy CN1 Policy EN12 Policy M8	✓	✓							
Water Pollution Discharges to controlled water	✓	Policy CN1 Policy EN1 Policy EN12 Policy M8 Policy M14	✓	✓							

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure	✓	Policy EN1 Policy EN12 ? Policy CN1 ? Policy M9	✓	✓							
Waste Management Quantity of waste produced from provision of aggregate. Non-primary aggregates recovered and recycled	✓	Policy EN1 Policy M4	✓	✓							

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POLICY APPRAISAL MATRIX (PAM)

Gateshead - UDP

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	Section 2.25 Section 2.26 Policy E1 Policy E39 Policy E40 Policy E41 Policy M2	✓ ✓	Section 2.25 Policy M2	✓	Policy M2	X	X	X	X	Policy M1 requires an assessment to be made of the adverse effects on the environment and amenity in comparison to the benefits arising from proposed minerals developments in terms of meeting national, regional and local needs.
Archaeology Designated sites impacted by workings and associated infrastructure	✓	Section 2.25 Section 2.26 Policy E1 Policy E18 Policy E19 Policy E20 Policy M2 Policy M6	✓	Section 2.25 Section 2.26 Policy E1 Policy E18 Policy E19 Policy E20 Policy M2	✓	Policy M2					

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓	Section 2.25 Section 2.26 Section 3.15 Policy E1 Policy E8 Policy M2	✓	Section 2.25 Section 2.26 Section 3.15 Policy E1 Policy E8 Policy M2 Policy M6	✓	Policy M2 Policy M6					
Landscape Designated sites impacted by workings and associated infrastructure	✓	Section 2.25 Section 2.26 Policy E1 Policy E32 Policy M2	✓	Section 2.25 Section 2.26 Policy E1 Policy E32 Policy M2	✓	Policy M2					
Land Take Protection of Best and Most Versatile Land	✓	Section 2.26 Policy E33 Policy M2	✓	Section 2.26 Policy E33 Policy M2	✓	Policy M11					
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓	Section 2.43 Policy E45 Policy E46? Policy M2 Policy M6	✓	Section 2.43 Policy E45 Policy E46? Policy M2 Policy M6	✓	Policy M11 Policy M6					

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	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Transportation Distance Distance of required transport to customer											
Extent of Remaining Landbank	✓	Section 2.43 Policy M2	✓	Section 2.43 Policy M2							
Conservation of Resources Water, energy mix and consumption, etc.	X	X	X	X	X	X	X	X	X	X	
Water Abstraction Extraction source and quantity	✓	Policy M2	✓	Policy M2	✓	Policy M2	X	X	X	X	

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Water Pollution Discharges to controlled water	✓	Section 2.25 Section 2.26 Policy E1 Policy E45 Policy E57 Policy M2	✓	Section 2.25 Section 2.26 Policy E1 Policy E45 Policy E57 Policy M2	✓	Policy M2	X	X	X	X	
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure	✓	Section 2.25 Section 2.26 Policy E1 Policy E57 Policy M2	✓	Section 2.25 Section 2.26 Policy E1 Policy E57 Policy M2	✓	Policy M2	X	X	X	X	

POLICY APPRAISAL MATRIX (PAM)

North Tyneside - UDP

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	Section 3.14 Section 3.29	✓	Section 3.34 Section 3.36 Policy E1 Policy E12. Policy E26 and <u>Policy E29</u>	✓	DCPS6					
Archaeology Designated sites impacted by workings and associated infrastructure	?	Section 3.14 Section 3.29	?	Section 3.34 Section 3.36 Policy E15 Policy E16 Policy E19 <u>Policy E29</u>							
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓	Section 3.14 Section 3.29	✓	Section 3.34 Section 3.36 Policy E15 Policy E16 Policy E17 <u>Policy E29</u>	✓	DCPS 8					

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Landscape Designated sites impacted by workings and associated infrastructure	✓	Section 3.14	✓	Section 3.34 Section 3.26 Policy E18 <u>Policy E29</u>							
Land Take Protection of Best and Most Versatile Land	✓	Policy E24 <u>Policy E29</u>	✓	Policy E24 <u>Policy E29</u>							
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	?	Policy LE3 Policy E7 Policy E8	✓	Policy LE3 Section 3.36 <u>Policy E29</u>							
Countryside Access and amenit	✓	Section 3.14 Section 3.29	✓	Section 3.36 Policy E20 Policy E21							

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Extent of Remaining Landbank	✓	Section 3.14	✓	Policy E27							
Conservation of Resources Water, energy mix and consumption, etc.			✓	Policy E2							
Water Abstraction Extraction source and quantity			✓	Section 3.34							
Water Pollution Discharges to controlled water			✓	Section 3.34 Policy E3 <u>Policy E29</u>							

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure			✓	Section 3.34 Policy E3 <u>Policy E29</u>							
Waste Management Quantity of waste produced from provision of aggregate. Non-primary aggregates recovered and recycled			✓	Section 3.36							

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POLICY APPRAISAL MATRIX (PAM)

Newcastle - UDP

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	Policy MIN 01	✓	Policy MIN 01	✓	Policy MIN 01	X	X	X	X	Policy POL 05 refers to the need to protect wildlife habitats from water pollution. Policy NC01.4 deals with developments likely to affect local nature reserves.
Archaeology Designated sites impacted by workings and associated infrastructure	✓	Policy MIN 01	✓	Policy MIN 01	✓	Policy MIN 01	X	X	X	X	Policy C04 covers the issues of development and archaeology
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓	Policy MIN 01	✓	Policy MIN 01	✓	Policy MIN 01	X	X	X	X	Policy C01 deals with the conservation of historic environments.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Landscape Designated sites impacted by workings and associated infrastructure	✓	Policy MIN 01	✓	Policy MIN 01	✓	Policy MIN 01	X	X	X	X	
Land Take Protection of Best and Most Versatile Land	✓	Policy MIN 01 and MIN 02	✓	Policy MIN 01 and MIN 02	✓	Policy MIN 01 and MIN 02	X	X	X	X	
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓	Policy MIN 01 and MIN 02	✓	Policy MIN 01 and MIN 02	✓	Policy MIN 01 and MIN 02	X	X	X	X	
Countryside Access and amenity	✓	Policy MIN 01 and MIN 02	✓	Policy MIN 01 and MIN 02	✓	Policy MIN 01 and MIN 02	X	X	X	X	

[illegible]

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Extent of Remaining Landbank	X	X	X	X	X	X	X	X	X	X	
Conservation of Resources Water, energy mix and consumption, etc.	X	X	X	X	X	X	X	X	X	X	
Water Abstraction Extraction source and quantity	?	Policy MIN 01	?	Policy MIN 01	?	Policy MIN 01	X	X	X	X	Policy POL 03 deals with development which could cause a deterioration of the water quality in watercourses or in the quality of ground or surface water.
Water Pollution Discharges to controlled water	?	Policy MIN 01	?	Policy MIN 01	?	Policy MIN 01	X	X	X	X	Policy POL 03 deals with development which could cause a deterioration of the water quality in watercourses or in the quality of ground or surface water.

[illegible]

POLICY APPRAISAL MATRIX (PAM)
County Durham Minerals Local Plan

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	Section 3.5	✓	Section 2.10 Section 3.21 Table 3.1 Policy M3	Section 4.59 (Provides principles/criteria on factors likely to affect ‘areas of search’ for minerals across a range of environmental issues.) and Section 5						Section 3.5(v) of the Plan notes that it is necessary to “protect areas of designated landscape or nature conservation value from development other than in exceptional circumstances and where it has been demonstrated that development is in the public interest. ... Within an overall approach of conserving and enhancing the wider environment it is necessary that important features are protected wherever possible for the benefit of future generations”. Policies M25-M29 set out detailed policies relating to international, national and local sites designated for their importance to biodiversity and nature conversation.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Archaeology Designated sites impacted by workings and associated infrastructure	✓	Section 3.5	✓	Section 3.21 Table 3.1 Policy M3	Section 5						Policies M31-M33 cover issues relating to the development of minerals and archaeological sites.
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓	Section 3.5	✓	M23 Section 3.21 Table 3.1 Policy M3	Section 5 Policy M30						<p>Policy M23 specifically relates to Designated Landscapes including Historic Parks and Gardens.</p> <p>Policy M30 set out how minerals development should take account of listed buildings, conservation areas, etc.</p>

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Landscape Designated sites impacted by workings and associated infrastructure	✓	Section 3.5	✓	M22 Section 3.21 Table 3.1 Policy M3	Section 5						<p>Section 3.5(v) of the Plan notes that it is necessary to “protect areas of designated landscape or nature conservation value from development other than in exceptional circumstances and where it has been demonstrated that development is in the public interest. ... Within an overall approach of conserving and enhancing the wider environment it is necessary that important features are protected wherever possible for the benefit of future generations”.</p> <p>Policy M22 relates specifically to mineral extraction in or adjacent to North Pennines AONB while Policy M24 relates to local landscape character.</p>
Land Take Protection of Best and Most Versatile Land	✓	M34	✓	M34	✗						<p>Section 5.36 of the Plan mentions the difficulties of restoring agricultural land. Policy M34 sets an indicative of threshold of less than 20 or more hectares of the best quality land as being the likely permissible limit under normal circumstances.</p>

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓	Policy M46/M47 and M52	?	Section 3.21 Table 3.1 Policy M3 Policy M47	Section 5 Policy M46/M47	Policy M46/M47					
Countryside Access and amenity	✓	Policy M35	✓	Section 3.21 Table 3.1 Policy M3 Section 3.21 Table 3.1 Policy M3	Section 5 Policy M35	Policy M35					
Human Health and Amenity Nuisance due to workings and associated infrastructure	✓	Policy M36/M37	✓	Section 3.21 Table 3.1 Policy M3 Policy M36/M37	Policy M36	Policy M36/M37					Policy M5 explicitly mentions the effects of developing recycling facilities at existing land fills or quarries on local communities and the need to avoid any significant increase in impacts.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Transport Capacity/ Access General transport capacity and access issues	✓	Section 5.52-5.68	X	X	X	X	X	X	X	X	This issue is dealt with at the level of broad principles rather than detailed guidance/mitigation measures.
Transport Mode Modal split for transport of aggregates	✓	Policy M40	✓	Policy M40	X	X	X	X	X	X	This issue is dealt with at the level of broad principles rather than detailed guidance/mitigation measures.
Transportation Distance Distance of required transport to customer	✓	Section 3.5	X	X	X	X	X	X	X	X	This issue is not directly addressed in the Plan
Extent of Remaining Landbank	X	X	✓	X	X	X	X	X	X	X	This issue is not addressed in the Plan.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Conservation of Resources Water, energy mix and consumption, etc.	✓	Section 3.5	?	Section 3.21 Table 3.1 Policy M3							
Water Abstraction Extraction source and quantity	✓	Policy M38	✓	Section 3.21 Table 3.1 Policy M3							
Water Pollution Discharges to controlled water	✓	Policy M38	?	Section 3.21 Table 3.1 Policy M3 Policy M38	Policy M38	Policy M38					

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure	✓	M38	?	Section 3.21 Table 3.1 Policy M3 M38	M38	M38					
Waste Management Quantity of waste produced from provision of aggregate. Non-primary aggregates recovered and recycled	✓	Section 3.5	?	Section 3.21 Table 3.1 Policy M3	X	X					Waste disposal and management is primarily dealt with from the perspective of the provision of sites for waste disposal arising from minerals extraction rather than waste management <u>per se</u> . However, policies M46, M47 and M51/52 and other policies will have a bearing on the management of wastes during and after extraction.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Management Measures Dust, water quality, hazardous substances controls	✓	Section 3.5	?	Section 3.21 Table 3.1 Policy M3							
Other Planning Considerations (Birdstrike Prevention) Compatibility with CAA requirements			X								

POLICY APPRAISAL MATRIX (PAM)
Northumberland National Park Minerals Local Plan

Environmental Appraisal Topic	Evaluation criteria										Comments
	Covered by Guidance NP35 and NP37	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	NP1 NP6 NP7 NP8	X	X	✓	Annex A Annex B	X	X	X	X	
Archaeology Designated sites impacted by workings and associated infrastructure	✓	NP1 NP10 NP11 NP12 NP14	X	X	X	X	X	X	X	X	
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓	NP1 NP10 NP11 NP12 NP13	X	X	X	X	X	X	X	X	
Landscape Designated sites impacted by workings and associated infrastructure	✓	NP1 NP4 NP5	? ? ?	? NP5?	X	NP4	X	X	X	X	

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance NP35 and NP37	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Land Take Protection of Best and Most Versatile Land	✓	NP 15	X	X	✓	Annex A Annex B	X	X	X	X	
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓	NP15 NP23 NP25 NP26 NP27	X	X	✓	NP23? NP25 NP26 NP27	(3.42 – 3.55) Annex B	X	X	X	
Countryside Access and amenity	✓	NP1 NP18	X	X	X	X	X	X	X	X	
Human Health and Amenity Nuisance due to workings and associated infrastructure	✓	NP20	X	X	✓	NP20 (3.30) Annex A Annex B	X	X	X	X	
Transport Capacity/ Access General transport capacity and access issues	✓	NP19	X	X	✓	Annex A	X	X	X	X	

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance NP35 and NP37	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Transport Mode Modal split for transport of aggregates	X	X	X	X	X	X	X	X	X	X	
Transportation Distance Distance of required transport to customer	X	X	X	X	X	X	X	X	X	X	
Extent of Remaining Landbank	✓	NP30	✓	X	X	X	X	X	X	X	
Conservation of Resources Water, energy mix and consumption, etc.	X	X	X	X	X	X	X	X	X	X	
Water Abstraction Extraction source and quantity	✓	NP22	X	X	✓	NP22 (3.34) Annex A Annex B	X	X	X	X	

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance NP35 and NP37	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Water Pollution Discharges to controlled water	?	NP22?	X	X	✓	NP22? Annex A Annex B	X	X	X	X	
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure	✓	NP22	X	X	✓	NP22 (3.34)	X	X	X	X	
Waste Management Quantity of waste produced from provision of aggregate. Non-primary aggregates recovered and recycled	X	X	X	X	X	X	X	X	X	X	
Management Measures Dust, water quality, hazardous substances controls	?	NP21 ?	X	X	NP21 ?	NP21 ?	X	X	X	X	Policy NP21 actually deals with cumulative impacts but its requirements are of relevance to this appraisal topic.
Other Planning Considerations (Birdstrike Prevention) Compatibility with CAA requirements	✓	NP1	X	X	X	X	X	X	X	X	Requirements of National Parks legislation and the duties of the Park Authority are reflected in Policy NP1.

POLICY APPRAISAL MATRIX (PAM)
Tees Valley Structure Plan

[illegible]

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Landscape Designated sites impacted by workings and associated infrastructure	✓	MIN 4 (section 12.21)	✓	MIN 4 (section 12.21)	✓	MIN 4 section 12.21, section 12.11 and section 12.17	X	X	X	X	Section 12.21 of the Tees Valley Plan, commenting on Policy MIN4, notes that “Applications in areas such as SSSI’s should be subject to examination in line with sustainable development principles which state that areas of designated landscape or nature conservation value should be protected from development, other than in exceptional circumstances and where it has been demonstrated that development is in the public interest. Greater weight will be afforded to the protection of nationally <u>and</u> internationally important designations than that given to non-statutory local designations”.
Land Take Protection of Best and Most Versatile Land	✓	MIN 1 (iii)	✓	MIN 1 (iii)	✓	MIN 1	X	X	X	X	
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓	Section 12.4 (ii)	✓	Section 12.4 (ii) MIN 7 (Section 12.24 and 12.25)	✓	MIN 7 (Section 12.24 and 12.25)			✓	Section 12.24	Section 12.24 requires monitoring rather than reporting.

[illegible]

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given?	Policy reference	Comments
Extent of Remaining Landbank	X	X	X	X	X	X	X	X	X	X	
Conservation of Resources Water, energy mix and consumption, etc.	X	X	X	X	X	X	X	X	X	X	
Water Abstraction Extraction source and quantity	✓	MIN 1 (v)	✓	MIN 1 (v)	✓	section 12.11 and section 12.17	X	X	X	X	
Water Pollution Discharges to controlled water	?	MIN 1 (v)	?	MIN 1 (v)	✓	section 12.11 and section 12.17					
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure	?	MIN 1 (v) ?	?	MIN 1 (v) ?	?						

POLICY APPRAISAL MATRIX (PAM)
South Tyneside - UDP

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given? ⁽¹⁾	Policy reference	Reporting requirements given? ⁽²⁾	Policy reference	Comments ⁽³⁾
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	ENV1, ENV2, ENV5, ENV10, ENV11, ENV19, ENV20-22, NR5, NR7, NR8	✓	ENV1, ENV2, ENV5, ENV10, ENV11, ENV19, ENV20-22, NR5, NR7, NR8			✓	✓	✓	ST6.1(a) ST6.1(b) ST6.12 ST6.14	<ul style="list-style-type: none"> Section 3.4.3 of the Context section of the UDP specifically mentions nature conservation sites. Section 3.4.5 deals with minerals. Section 4.5.2 of the UDP (Aims of Objectives) states that are one of the aims of the Plan is to protect and enhance habitats.

⁽¹⁾ The UPD lists in section 16.8) a series of sustainability targets/baseline research. This has been interpreted as being relevant to this aspect of the appraisal. None of the documents/policies indicated in the PAM have been appraised in detail.

⁽²⁾ The plan quotes government guidance on RPG and associated plans in relation to monitoring – The UDP also establishes a variety of targets which are indicated, as appropriate, under specific appraisal topics. Section 4.3.10 of the UDP mentions that the LPA ‘will use a number of indicators to properly measure its performance’

⁽³⁾ The plan is guided by a commitment of ‘Putting the Environment and Regeneration First’. There is also a commitment to sustainable development that underpin the whole plan.

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given? ⁽¹⁾	Policy reference	Reporting requirements given? ⁽²⁾	Policy reference	Comments ⁽³⁾
Archaeology Designated sites impacted by workings and associated infrastructure	✓	ENV2, ENV8, ENV9, NR5, NR7, NR8	✓	ENV2, ENV8, ENV9, NR5, NR7, NR8							<ul style="list-style-type: none"> Section 3.4.3 of the Context section of the UDP specifically mentions archaeological sites
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓	ENV2, ENV6, ENV7, NR5, NR7, NR8	✓	ENV2, ENV6, ENV7, NR5, NR7, NR8							<ul style="list-style-type: none"> Section 3.4.3 of the Context Section of the UDP mentions sites of historic significance Section 3.45 deals with minerals Section 4.5.2 of the UDP (Aims and Objectives states that one of the aims of the Plan is to 'protect and enhance birthdays... of acknowledged quality and character'.

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given? ⁽¹⁾	Policy reference	Reporting requirements given? ⁽²⁾	Policy reference	Comments ⁽³⁾
Landscape Designated sites impacted by workings and associated infrastructure	✓	ENV2, ENV5. ENV10, ENV23, NR5, NR7, NR8	✓	ENV2, ENV5. ENV10, ENV23, NR5, NR7, NR8			✓	✓	✓	ST15	<ul style="list-style-type: none"> Section 3.4.3 of the Context section of the UDP mentions areas of landscapes value Section 3.4.5 deals with minerals Section 4.5.2 of the UDP (Aims and Objectives) states that one of the aims of the Plan is to 'protect and enhance.....areas of acknowledge quality and character and to create new ones'.
Land Take Protection of Best and Most Versatile Land	✓	ENV26, NR7	✓	ENV26, NR7							<ul style="list-style-type: none"> Section 3.4.2 of the Context Section mentions 'recognition of the value of agricultural land'. Section 3.4.5 deals with minerals

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given? ⁽¹⁾	Policy reference	Reporting requirements given? ⁽²⁾	Policy reference	Comments ⁽³⁾
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓	ENV10, NR5, NR7, NR8	✓	ENV10, NR5, NR7, NR8			✓	✓	✓	ST6.7(?)	<ul style="list-style-type: none"> Section 3.4.5 of the Context section mentions restoration of minerals sites after use Section 4.5.3 on Aims and Objectives for Natural Resources deals with issues of rehabilitation and restoration.
Countryside Access and amenity	✓	ENV10, ENV11	✓	ENV10, ENV11							
Human Health and Amenity Nuisance due to workings and associated infrastructure	✓	ENV12, ENV13, ENV14, ENV15, NR4	✓	ENV12, ENV13, ENV14, ENV15, NR4			✓	✓	✓	ST6.10 (?)	<ul style="list-style-type: none"> Section 4.5.3 on Aims and Objectives for Natural Resources addresses the issues of impacts on local residents

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given? ⁽¹⁾	Policy reference	Reporting requirements given? ⁽²⁾	Policy reference	Comments ⁽³⁾
Transport Capacity/ Access General transport capacity and access issues	✓	ENV13, ENV14, NR7	✓	ENV13, ENV14, NR7							<ul style="list-style-type: none"> Sections 3.4.23 and 3.4.25 of the Context Sections sets out general issues concerning transport and the management of transport demands and the need for integrated transport. Section 4.5.9 of the Aims and Objectives section of the UDP sets out broad principles for the management of transport issues that are of relevance to the minerals sector.
Transport Mode Modal split for transport of aggregates	✓	NR7	✓	NR7							

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given? ⁽¹⁾	Policy reference	Reporting requirements given? ⁽²⁾	Policy reference	Comments ⁽³⁾
Transportation Distance Distance of required transport to customer	✓	ENV13,ENV14,NR7	✓	ENV13,ENV14,NR7							
Extent of Remaining Landbank											
Conservation of Resources Water, energy mix and consumption, etc.	✓	ENV12, ENV13, ENV14, ENV16, NR7	✓	ENV12, ENV13, ENV14, ENV16, NR7			✓	✓	✓	ST6.1(a)?	<ul style="list-style-type: none"> Section 4.5.3 of Aims and Objectives on Natural Resource deals with the conservation of natural resources.
Water Abstraction Extraction source and quantity	✓	ENV12, ENV13, ENV14, ENV16, NR7	✓	ENV12, ENV13, ENV14, ENV16, NR7			✓	✓	✓	ST6.1(a)	

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given? ⁽¹⁾	Policy reference	Reporting requirements given? ⁽²⁾	Policy reference	Comments ⁽³⁾
Water Pollution Discharges to controlled water	✓	ENV12, ENV13, ENV14, ENV16, NR7	✓	ENV12, ENV13, ENV14, ENV16, NR7			✓	✓	✓	ST6.1(a)	
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure	✓	ENV12, ENV13, ENV14, ENV16, NR7	✓	ENV12, ENV13, ENV14, ENV16, NR7			✓	✓	✓	ST6.1(a)	

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given? ⁽¹⁾	Policy reference	Reporting requirements given? ⁽²⁾	Policy reference	Comments ⁽³⁾
Waste Management Quantity of waste produced from provision of aggregate. Non-primary aggregates recovered and recycled	✓	ENV12, EN13, ENV14, ENV16, NR7	✓	ENV12, EN13, ENV14, ENV16, NR7			✓	✓	✓	ST6.1(a)?	<ul style="list-style-type: none"> Section 4.5.3 on Aims and Objective for natural Resources deals with the recycling of materials.

[illegible]

POLICY APPRAISAL MATRIX (PAM)
Northumberland Minerals Local Plan - UDP

Evaluation criteria											
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given? ⁽¹⁾	Policy reference	Comments
Biodiversity and Earth Science Designated sites impacted by workings and associated infrastructure	✓	S1, S2, S3, S4, EP2, EP4, EP5, EP6, EP7	✓	Section 1.6 S1, S2, S3, S4, EP2, EP4, EP5, EP6, EP7	✓	Policy R1 Sections 11.33-11.34	✗	✗			<ul style="list-style-type: none"> • <u>General Comment</u> Policy EP1 requires that an analysis of environmental effects will be required with all proposals for mineral workings. Where necessary an EIA will also be carried out in accordance with national legislation. • Policy EP23 states that ‘where appropriate and necessary to the grant of planning permission, the County Council’ will seek to negotiate with mineral operators, community or environmental benefits....commensurate with the likely impact and scale of the development’. • Section 5 of the plan on Aggregate Minerals stipulates that the Plan will be implemented in accordance with MG6.

⁽¹⁾ Section 1.12 provides generic guidance on procedures for the monitoring and review of the Plan.

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given? ⁽¹⁾	Policy reference	Comments
Archaeology Designated sites impacted by workings and associated infrastructure	✓	S1, S2, S3, S4, EP8, EP9, EP10, EP12,	✓	S1, S2, S3, S4, EP8, EP9, EP10, EP12,			✗	✗			
Cultural Heritage Designated sites impacted by workings and associated infrastructure	✓	S1, S2, S3, S4, EP2, EP8, Ep11	✓	Section 1.6 S1, S2, S3, S4, EP2, EP8, Ep11			✗	✗			
Landscape Designated sites impacted by workings and associated infrastructure	✓	S1, S2, S3, S4, EP2, EP3	✓	Section 1.6 S1, S2, S3, S4, EP2, EP3	✓	Section 11.8-11.11 and 11.17-11.38	✗	✗			
Land Take Protection of Best and Most Versatile Land	✓	S1, S2, S3, S4, EP13	✓	Section 1.6 S1, S2, S3, S4, EP13	✓	Section 10	✗	✗			

	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given? ⁽¹⁾	Policy reference	Comments
Rehabilitation Area of land identified for progressive rehabilitation for identified end use	✓	S1, S2, S3, S4, S6, EP22, A8, SM1, R1, R2	✓	Section 1.6 A8 Sm1 R1 R2	✓	Sections 10& 11	✗	✗			<ul style="list-style-type: none"> Section 10.29-10.30 deal with monitoring and enforcement.
Countryside Access and amenity	✓	S1, S2, S3, S4, EP2, EP3, EP16	✓	S1, S2, S3, S4, EP2, EP3, EP16	✓	Sections 10-25/26 and Sections 11.35-11.37	✗	✗			
Human Health and Amenity Nuisance due to workings and associated infrastructure	✓	S1, S2, S3, S4, S6, EP19, EP20, A4, A6, A8	✓	A4 A6 A8	✓	Sections 10.11-10.17	✗	✗			
Transport Capacity/ Access General transport capacity and access issues	✓	EP18	✓	EP18	✓	Sections 10.10	✗	✗			

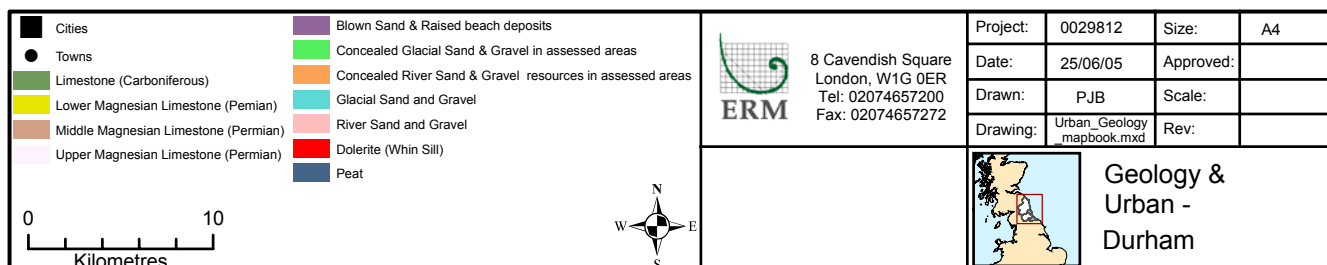
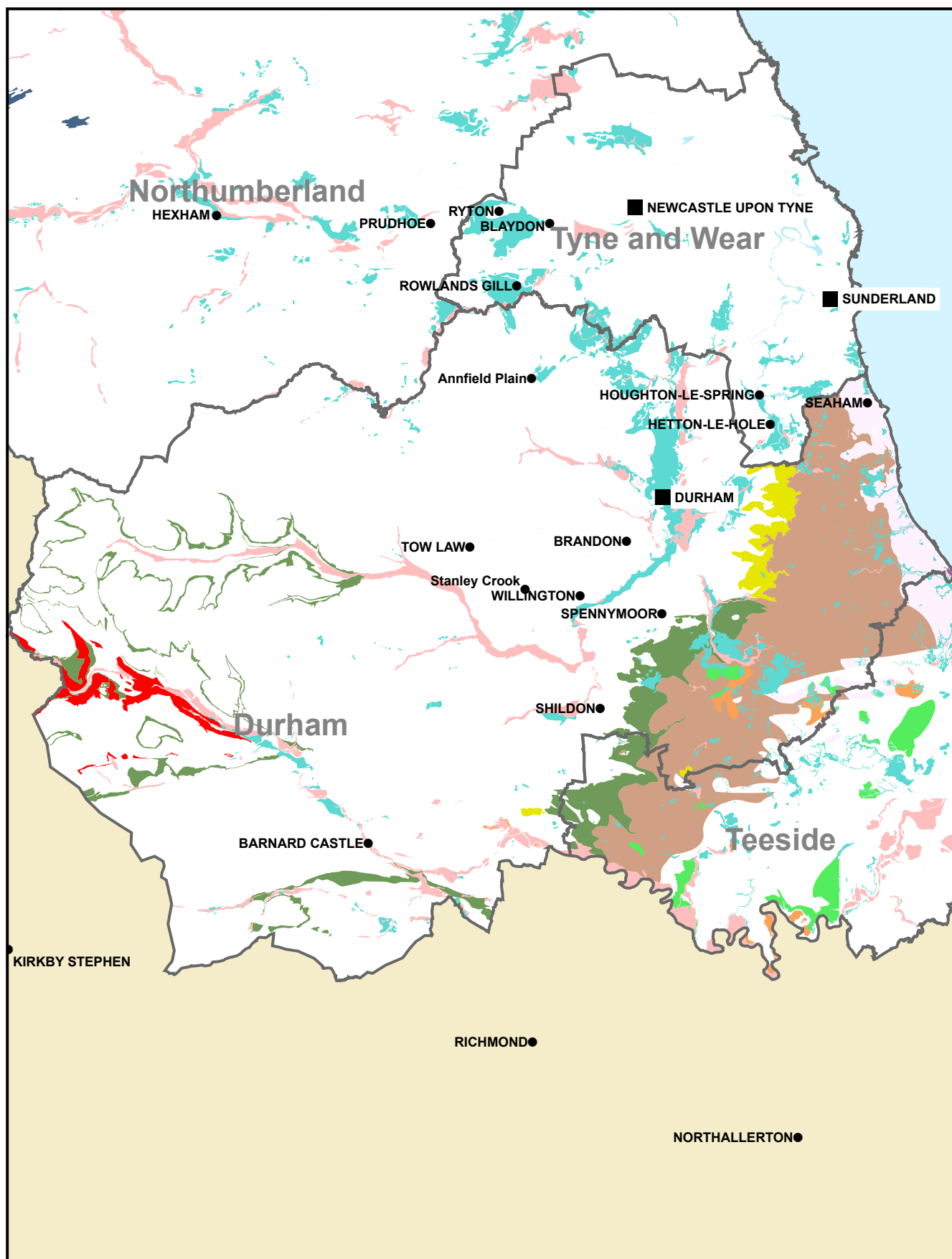
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Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given? ⁽¹⁾	Policy reference	Comments
Transport Mode Modal split for transport of aggregates	✓	EP17	✓	EP17			✗	✗			
Transportation Distance Distance of required transport to customer											
Extent of Remaining Landbank	✓	A2 A3	✓	A2 A3			✗	✗			
Conservation of Resources Water, energy mix and consumption, etc.	✓	S1. S2, S3, S4	✓	S1. S2, S3, S4							

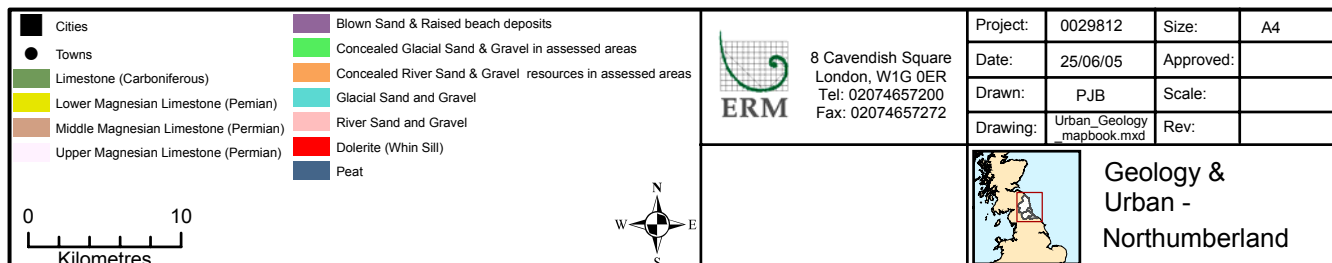
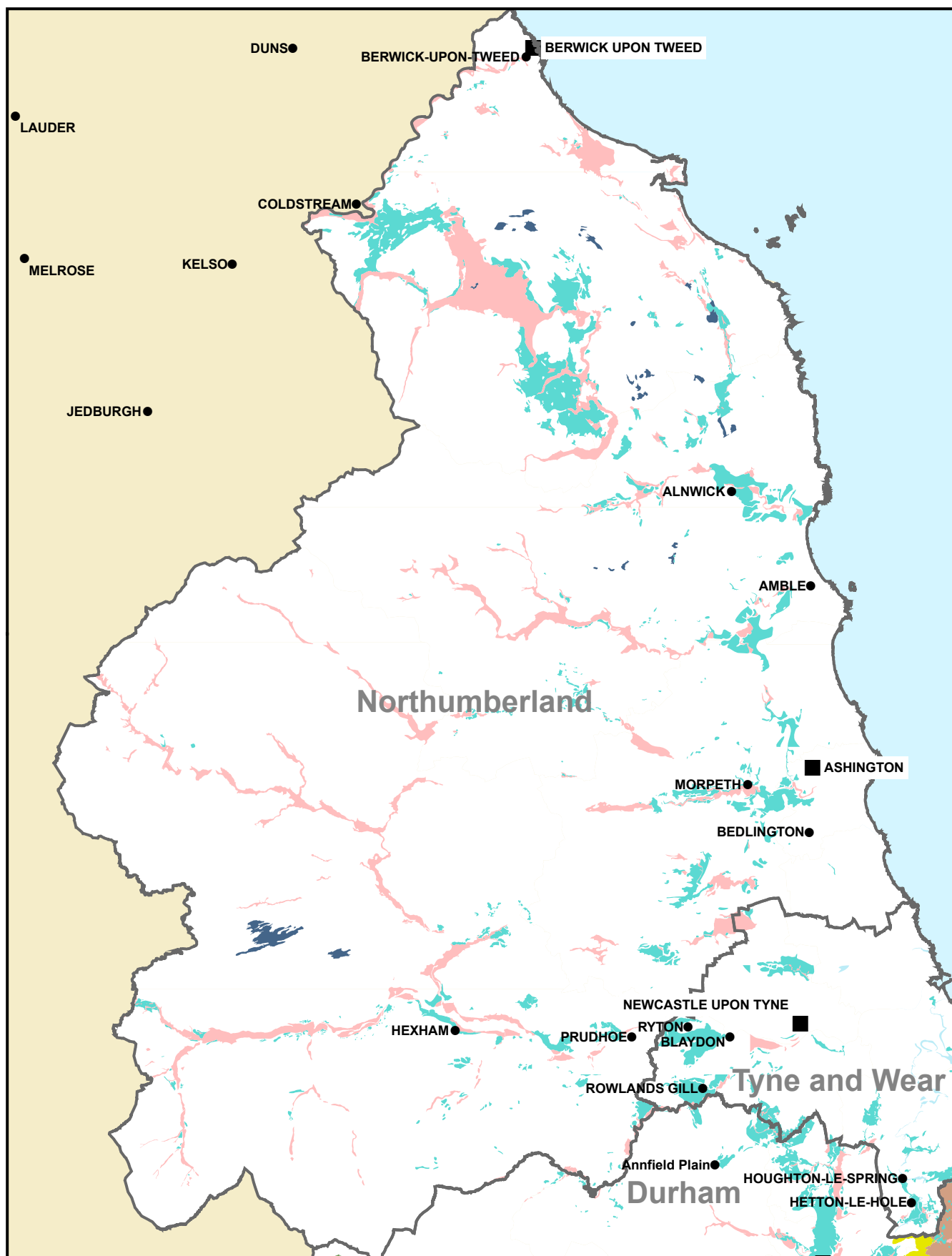
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Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given? ⁽¹⁾	Policy reference	Comments
Water Abstraction Extraction source and quantity	✓	S1, S2, S3, S4, EP21	✓	S1, S2, S3, S4, EP21	✓	Section 10.18	✗	✗			
Water Pollution Discharges to controlled water	✓	S1, S2, S3, S4, EP21	✓	S1, S2, S3, S4, EP21	✓	Section 10.18	✗	✗			
Groundwater Contamination and Threats Aquifers impacted and groundwater protection zones threatened by workings and associated infrastructure	✓	S1, S2, S3, S4, EP21	✓	S1, S2, S3, S4, EP21	✓	Section 10.18	✗	✗			

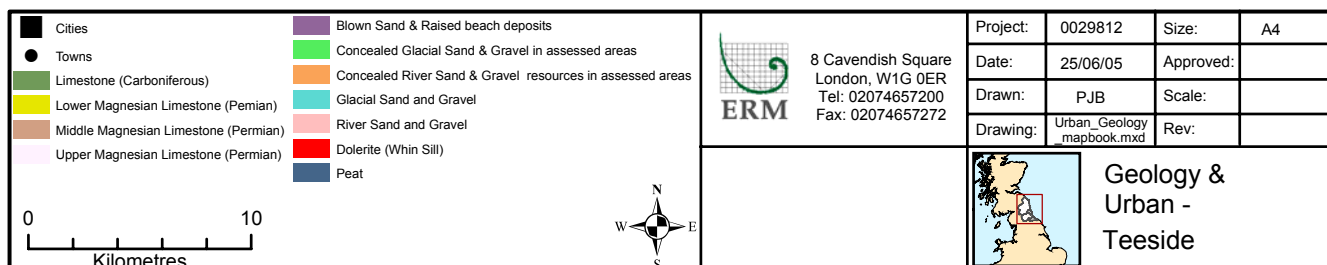
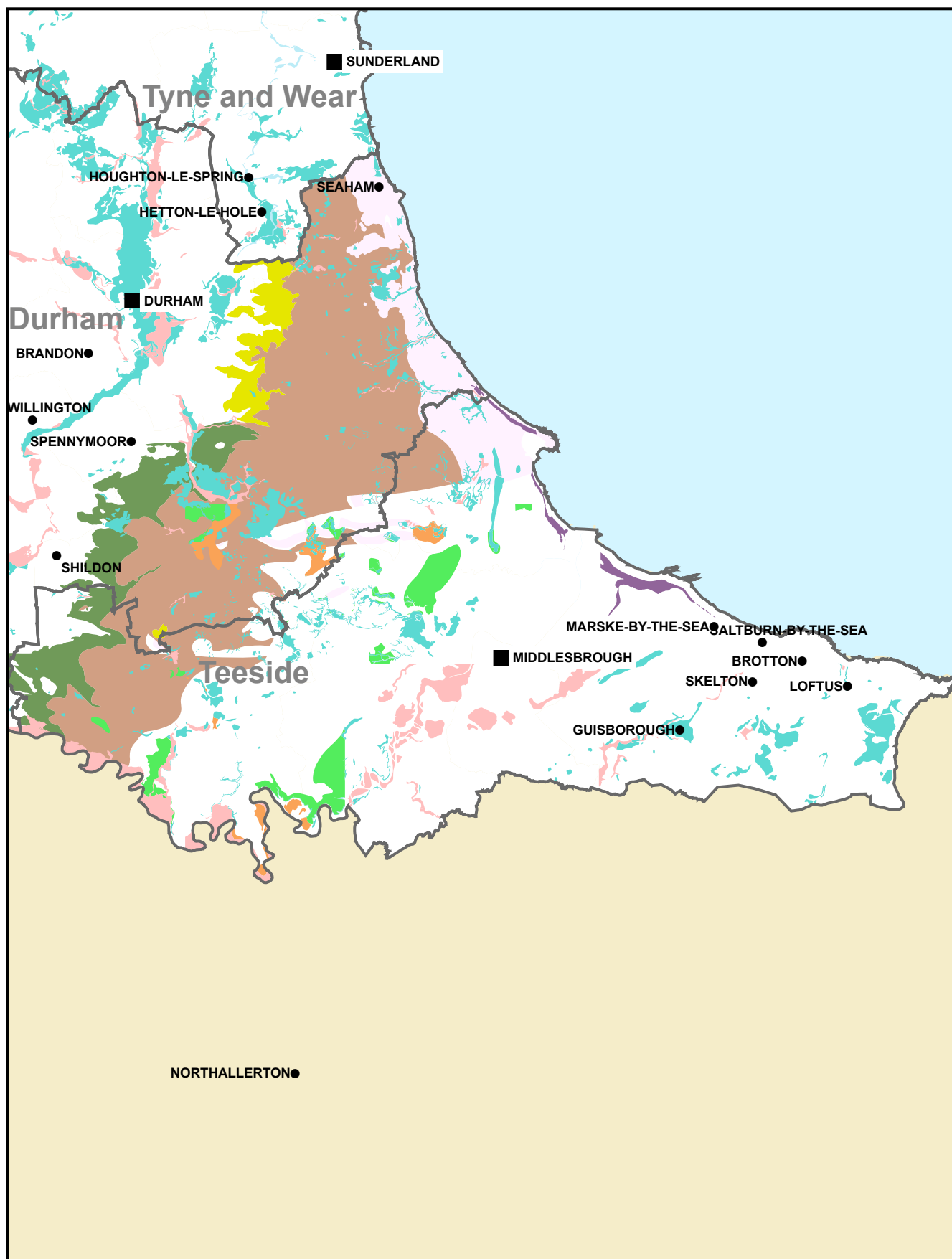
	Evaluation criteria										
Environmental Appraisal Topic	Covered by Guidance?	Policy reference	Objectives given in Guidance?	Policy reference	Guidance requires mitigation measures?	Policy reference	Key performance indicators given?	Policy reference	Reporting requirements given? ⁽¹⁾	Policy reference	Comments
Waste Management Quantity of waste produced from provision of aggregate. Non-primary aggregates recovered and recycled	✓	S1, S2, S3, S4, S5	✓	Section 6			✗	✗			
Management Measures Dust, water quality, hazardous substances controls	✓	S1, S2, S3, S4	✓	S1, S2, S3, S4	✓	Section 10	✗	✗			
Other Planning Considerations (Birdstrike Prevention) Compatibility with CAA requirements											This issue is not explicitly addressed by the Plan.

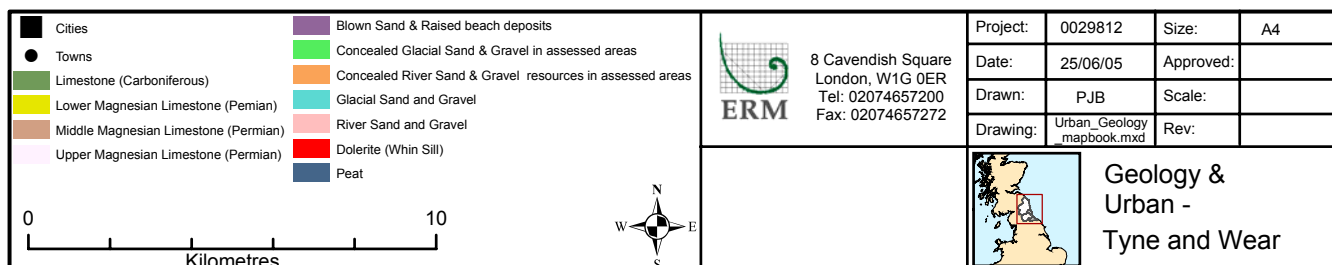
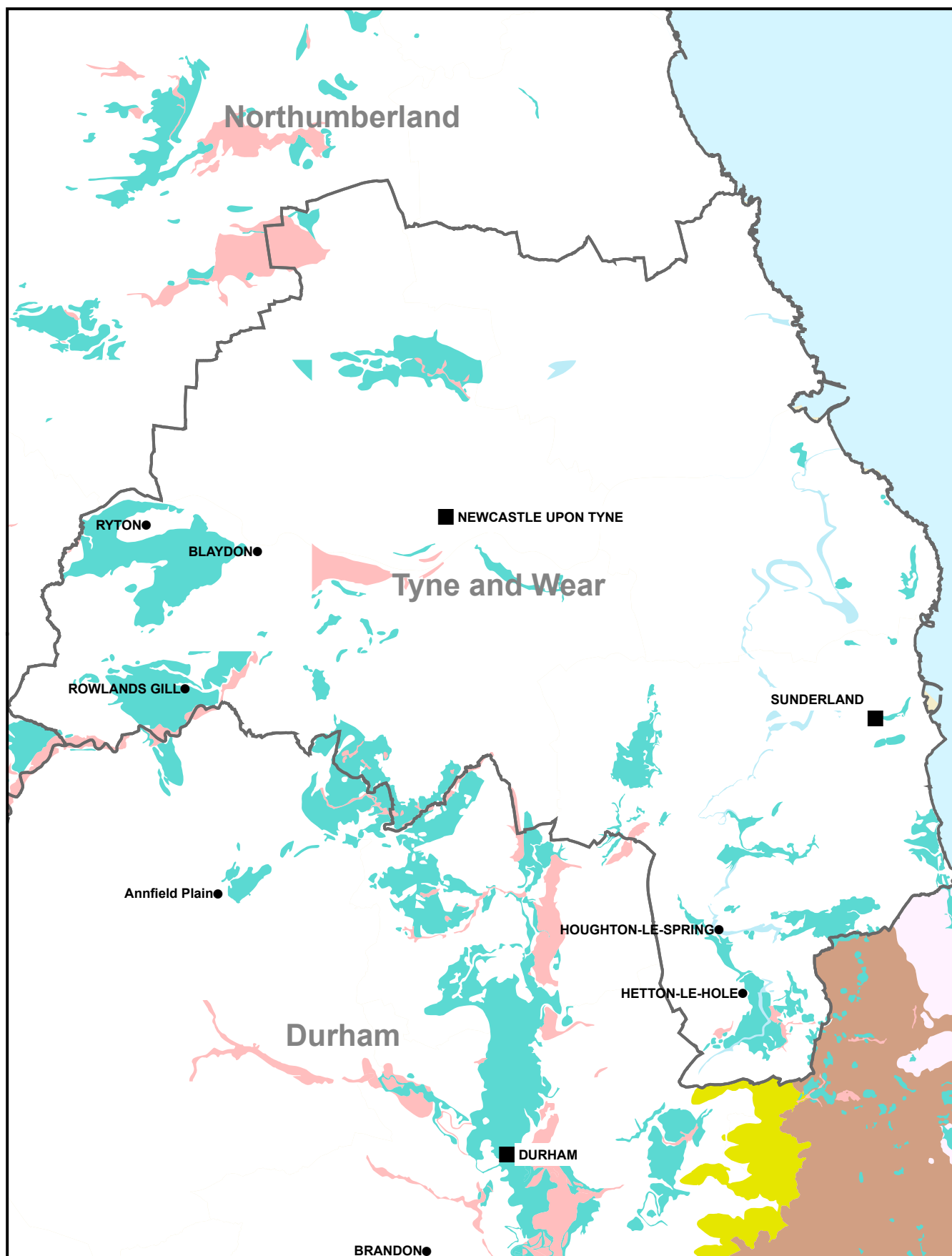
Annex B

Constraint Maps










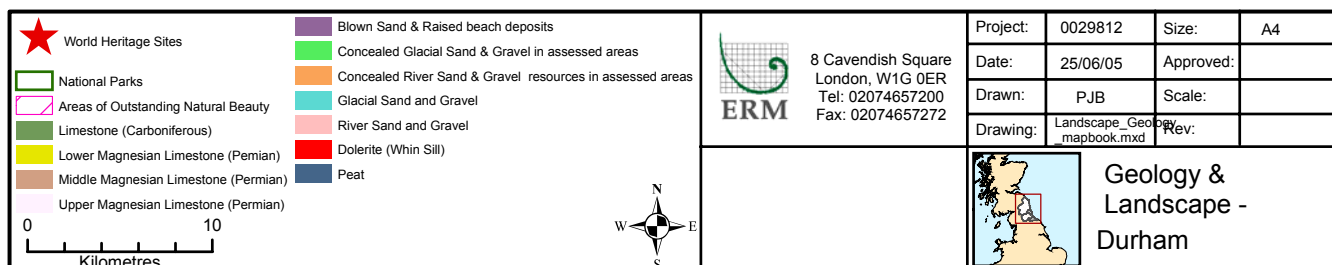
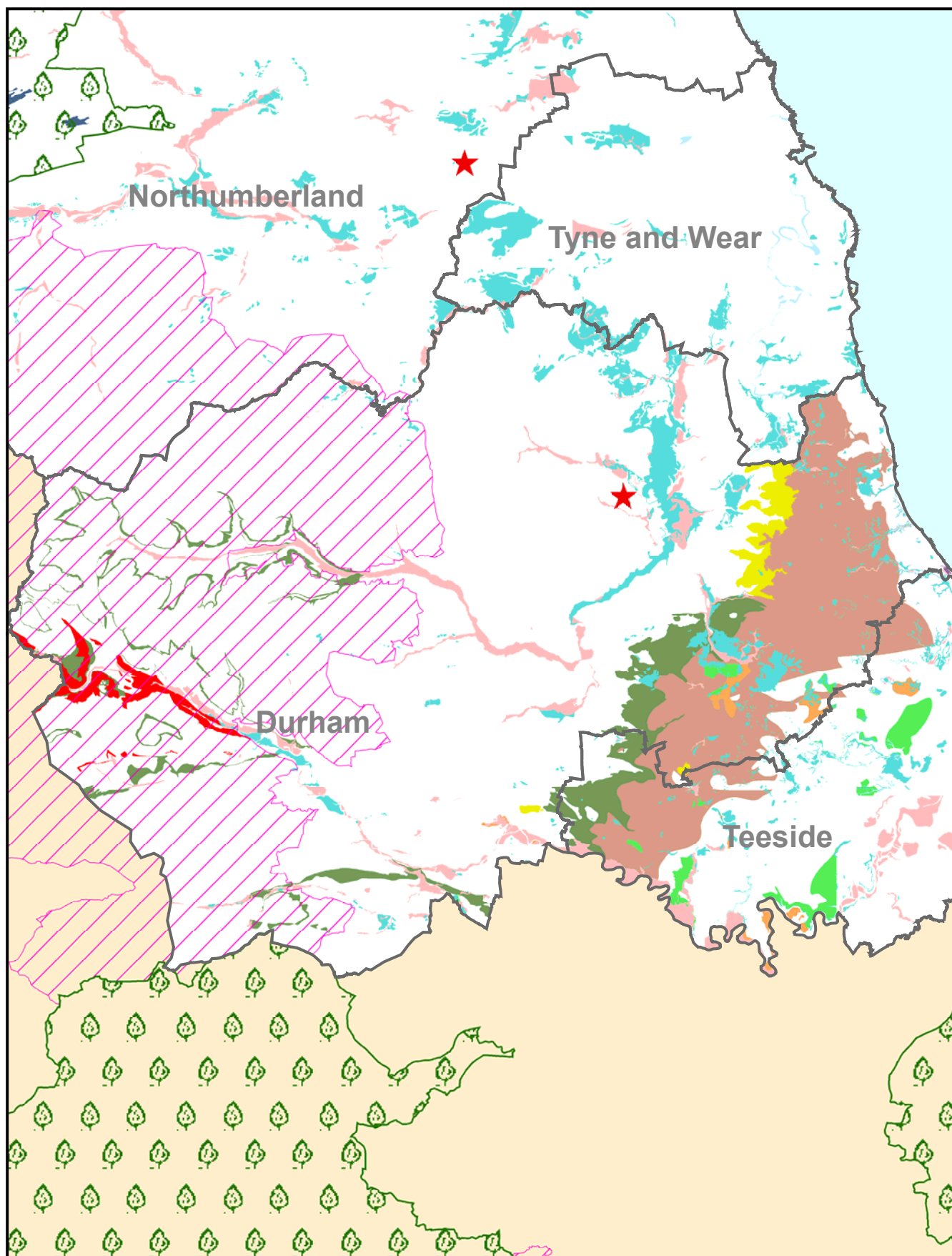


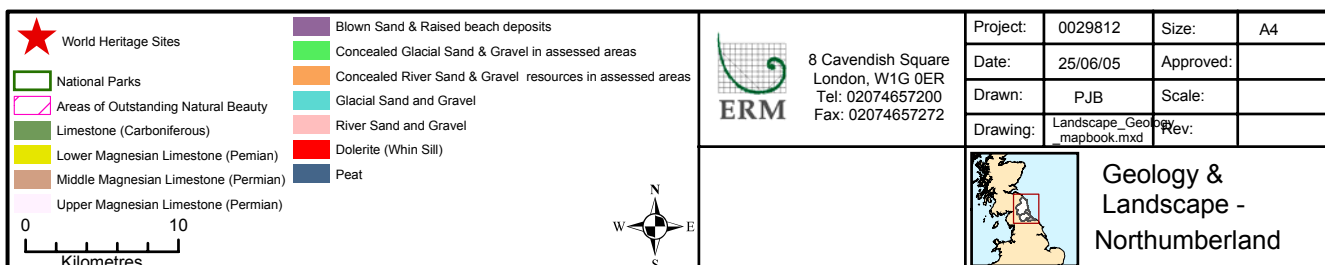
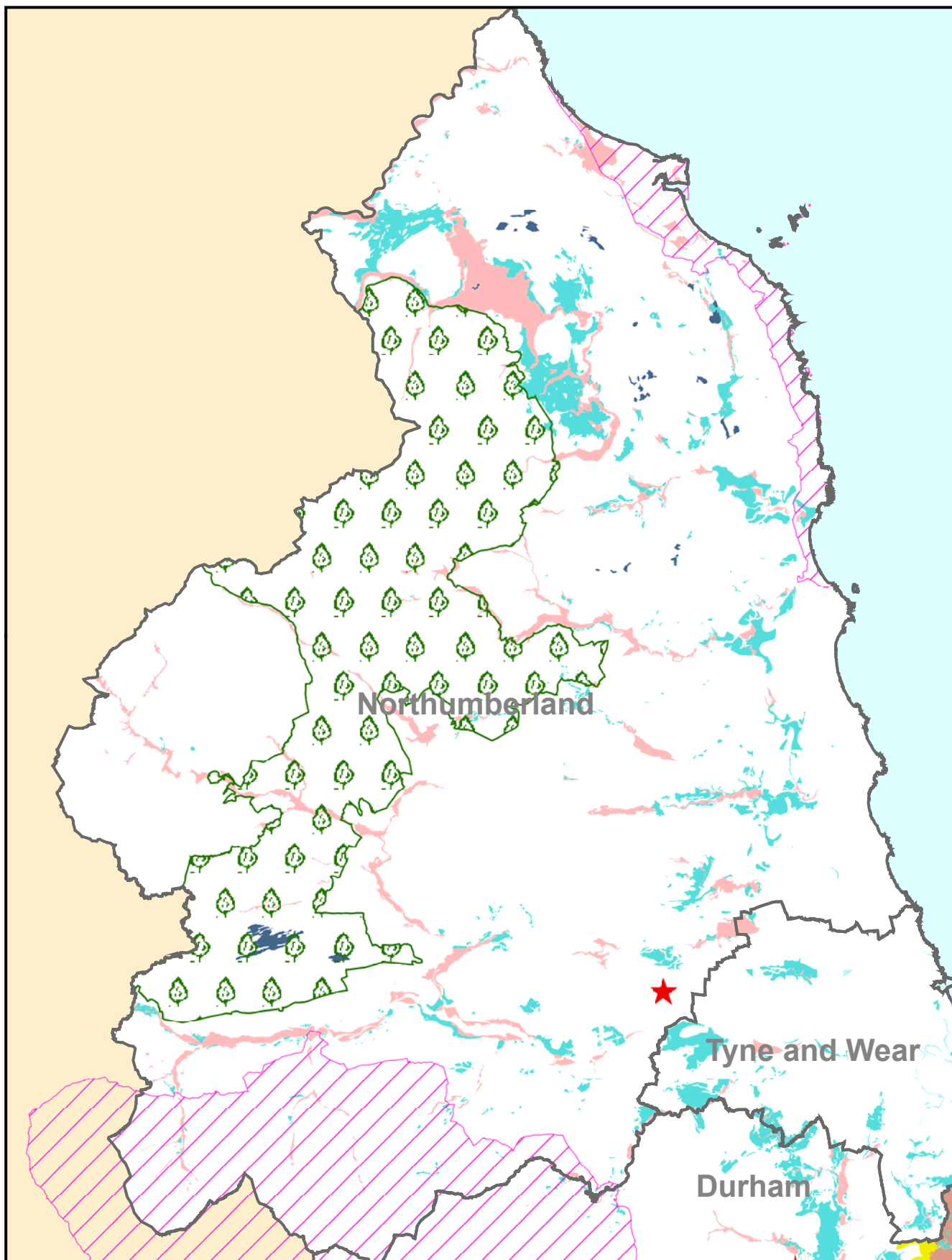


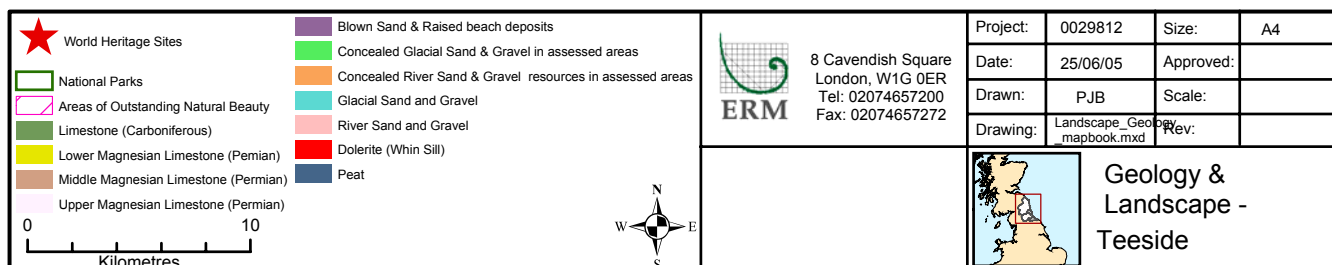
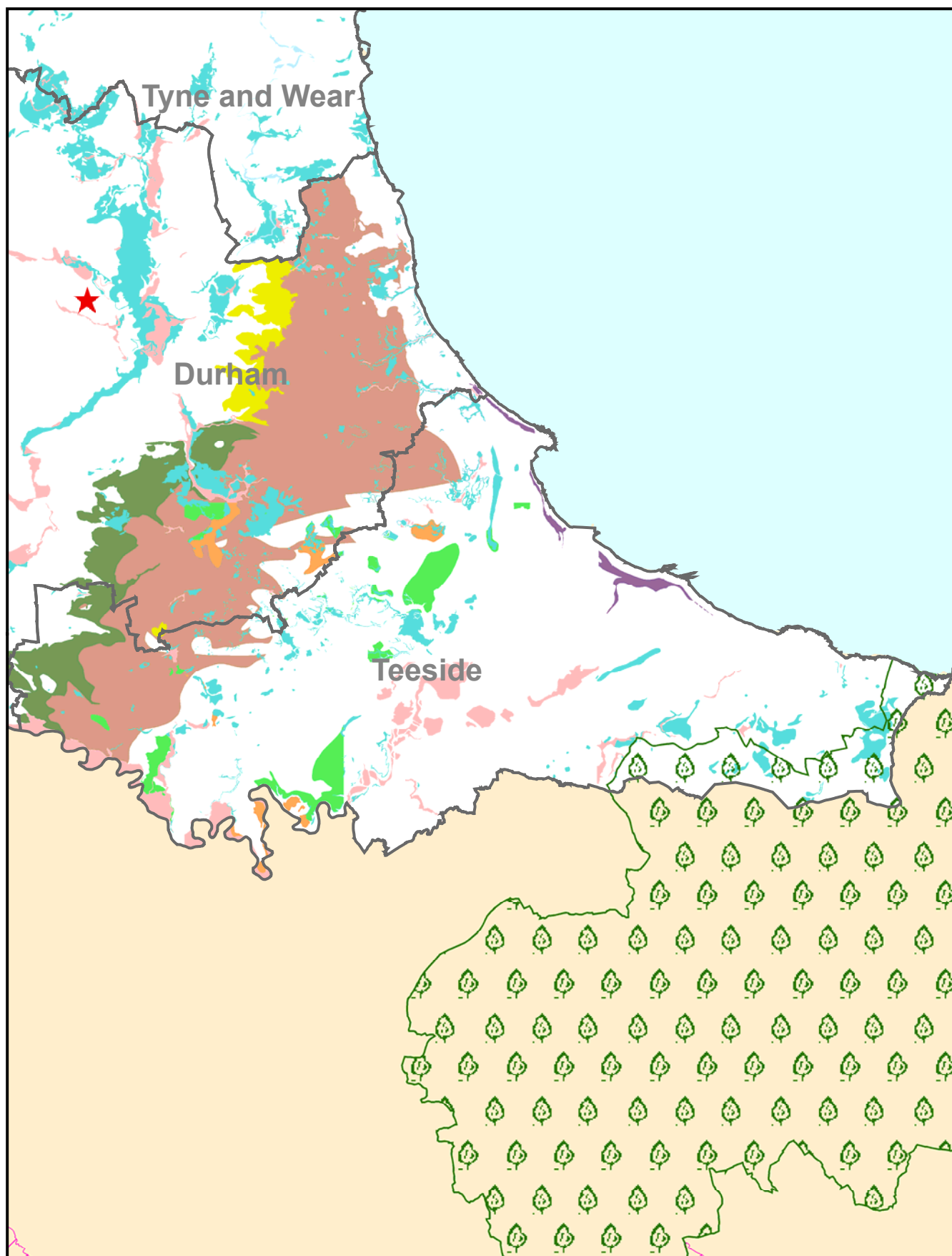


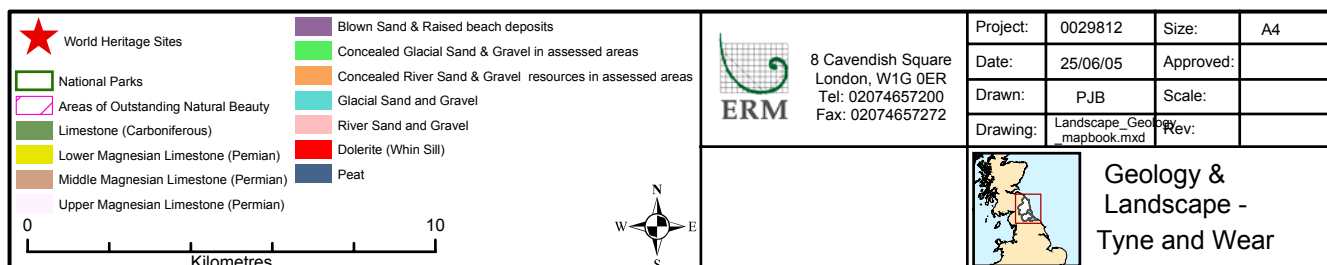
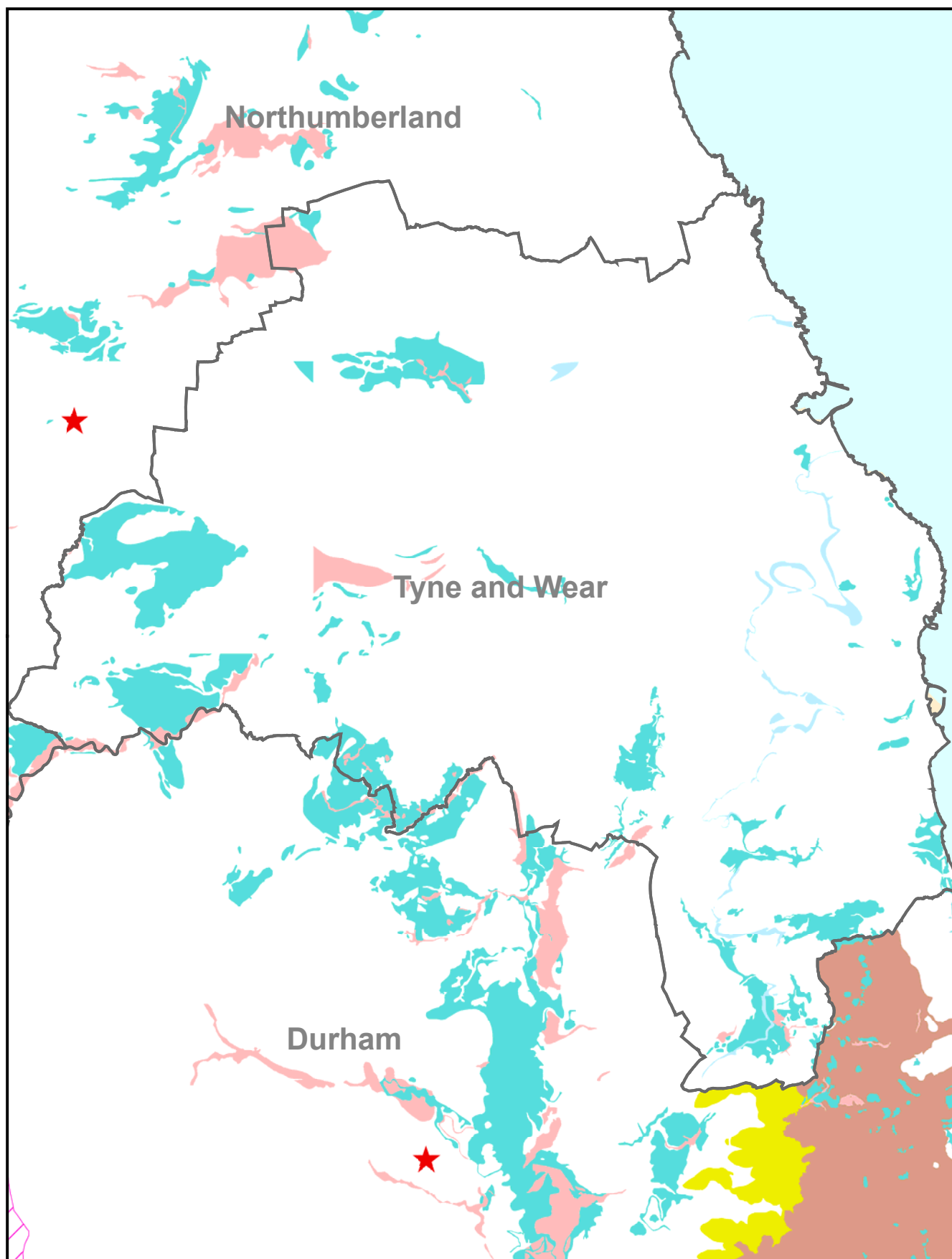


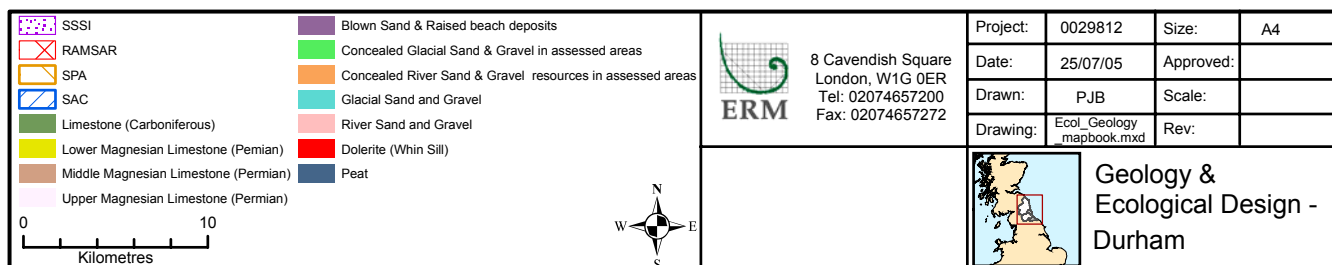
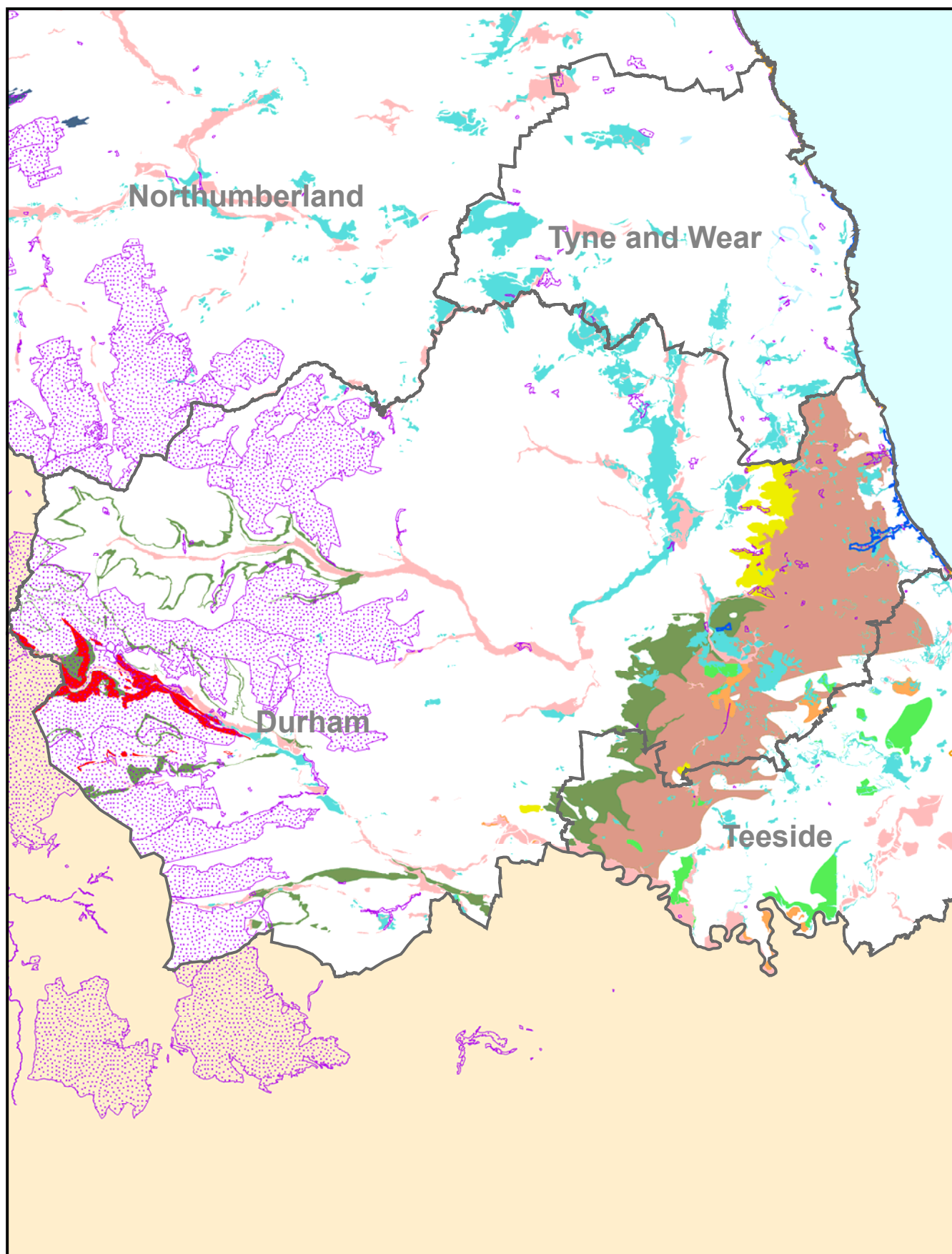
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	Date:	17/06/05	Approved:															
	Drawn:	PGE	Scale:	1:650K														
Drawing:	NE_Landsc.	Rev:	N/A															
		<div><div></div><div>North East Landscape Design</div></div>																

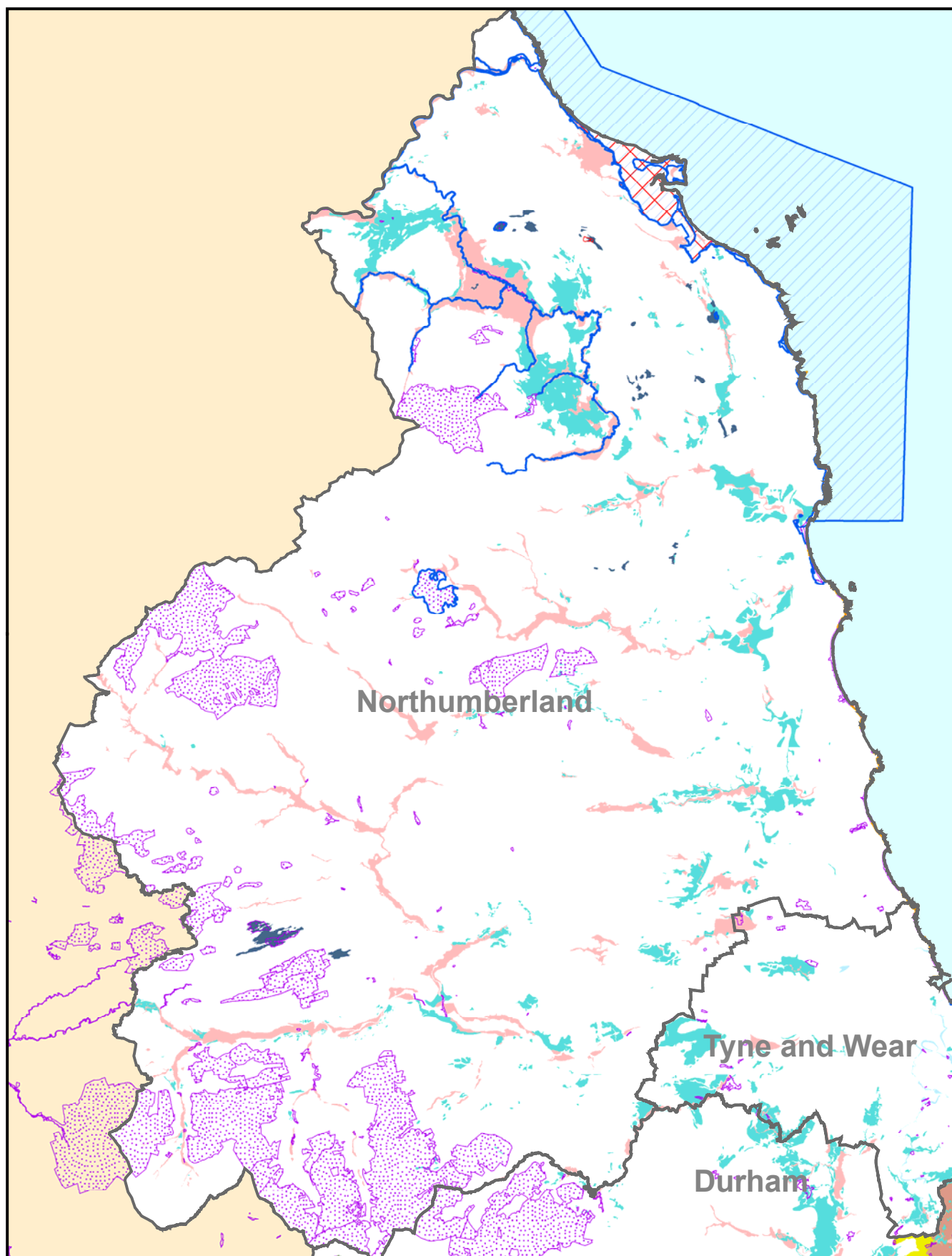







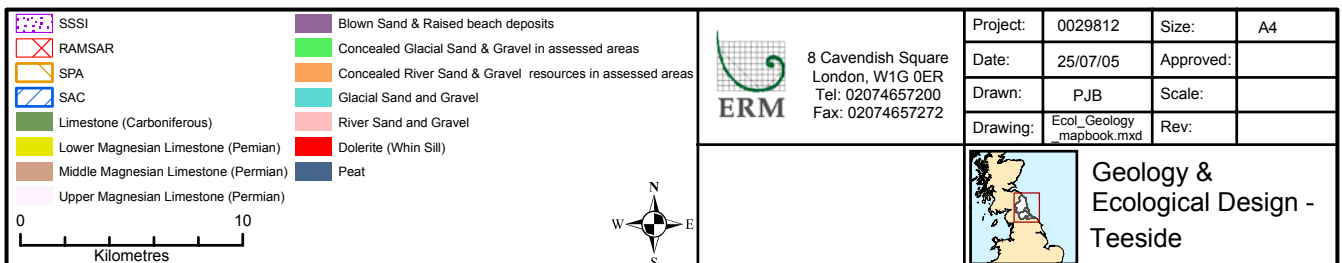
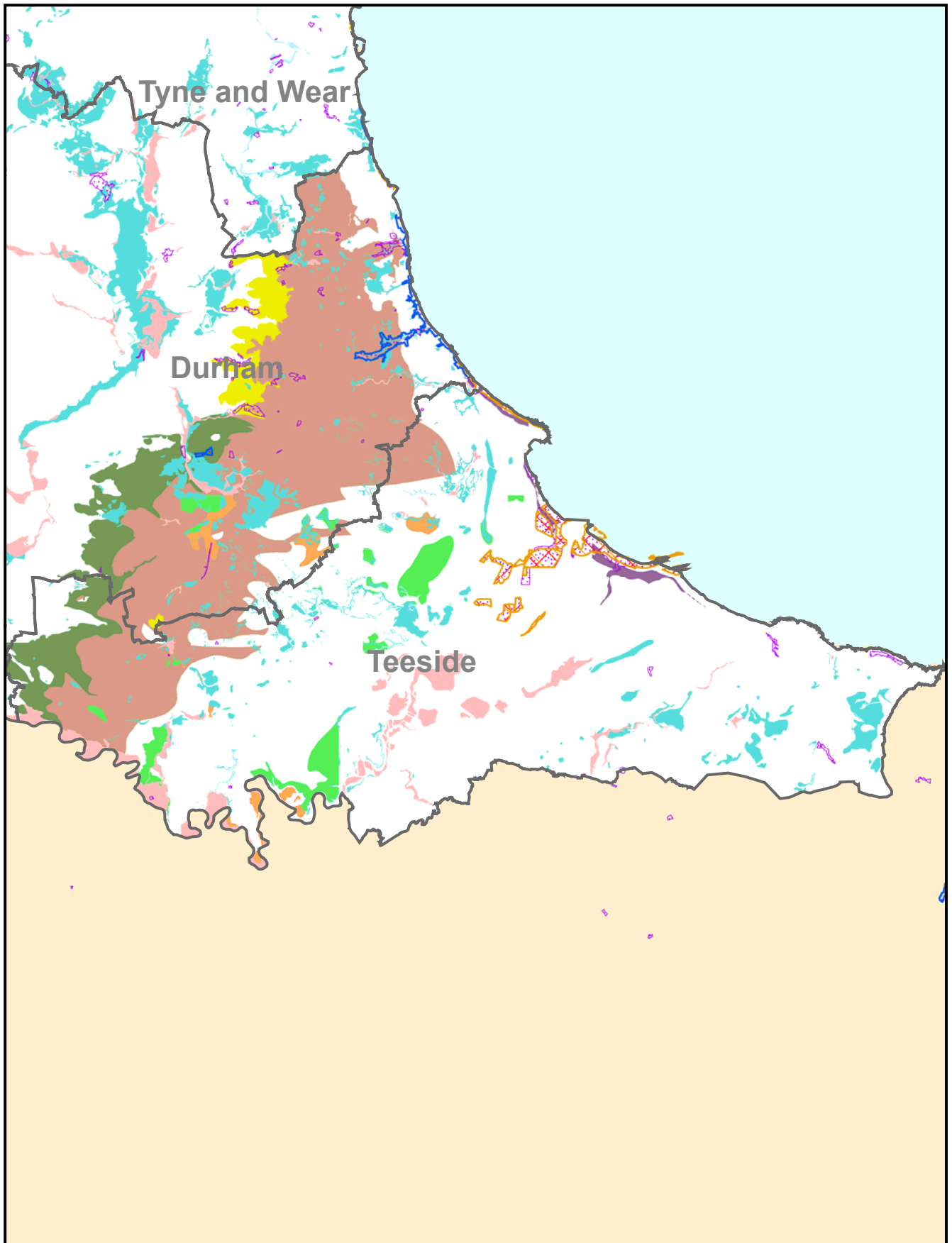


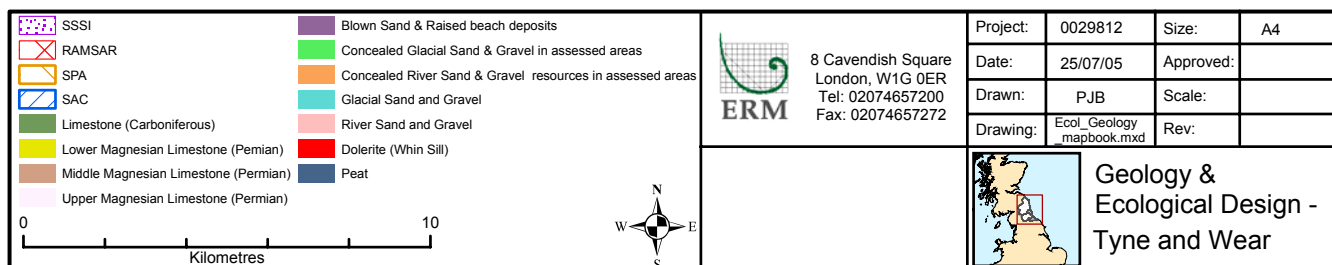
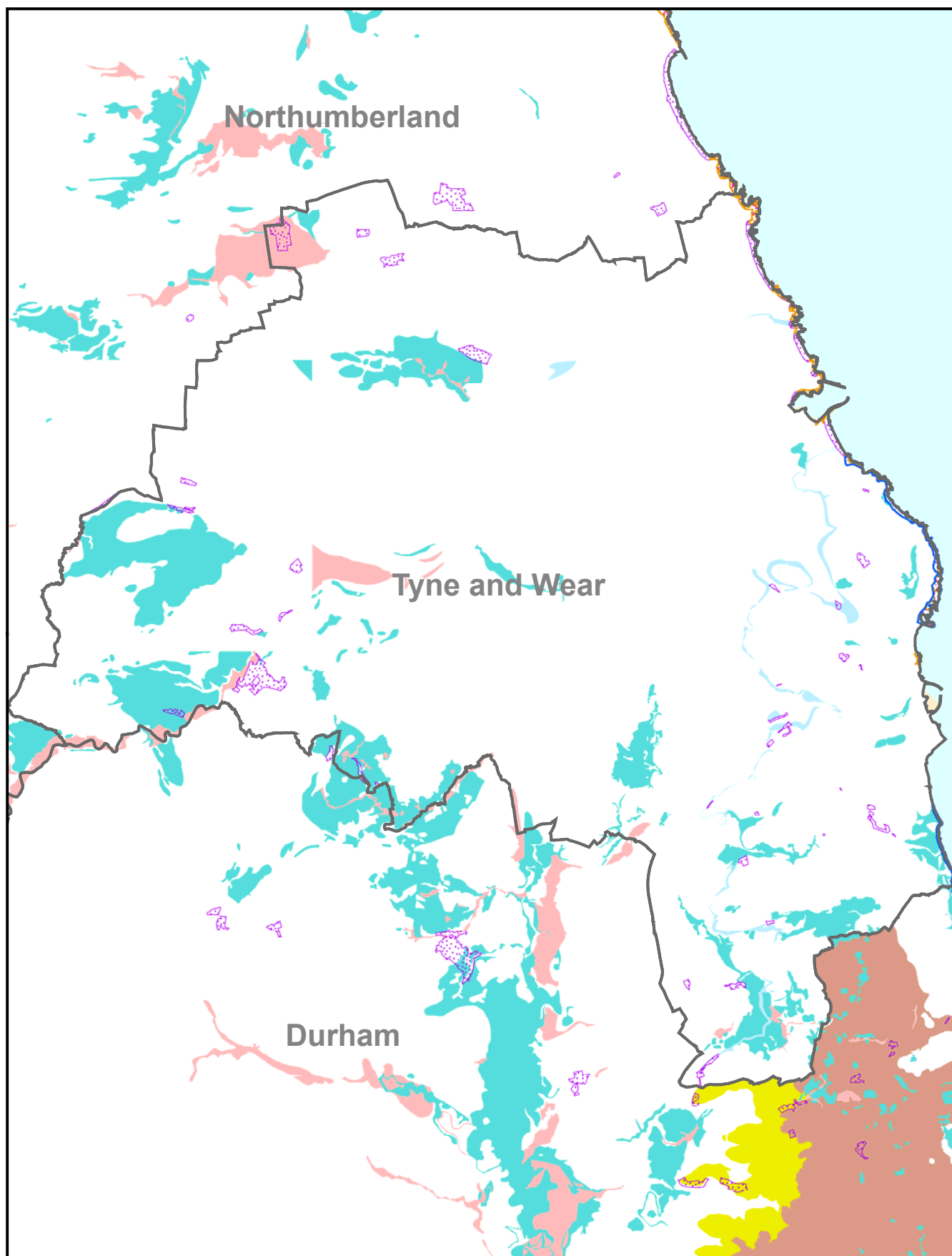


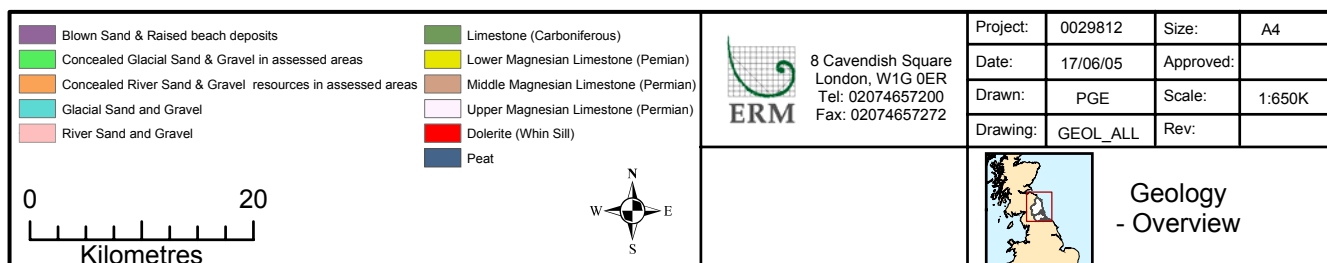
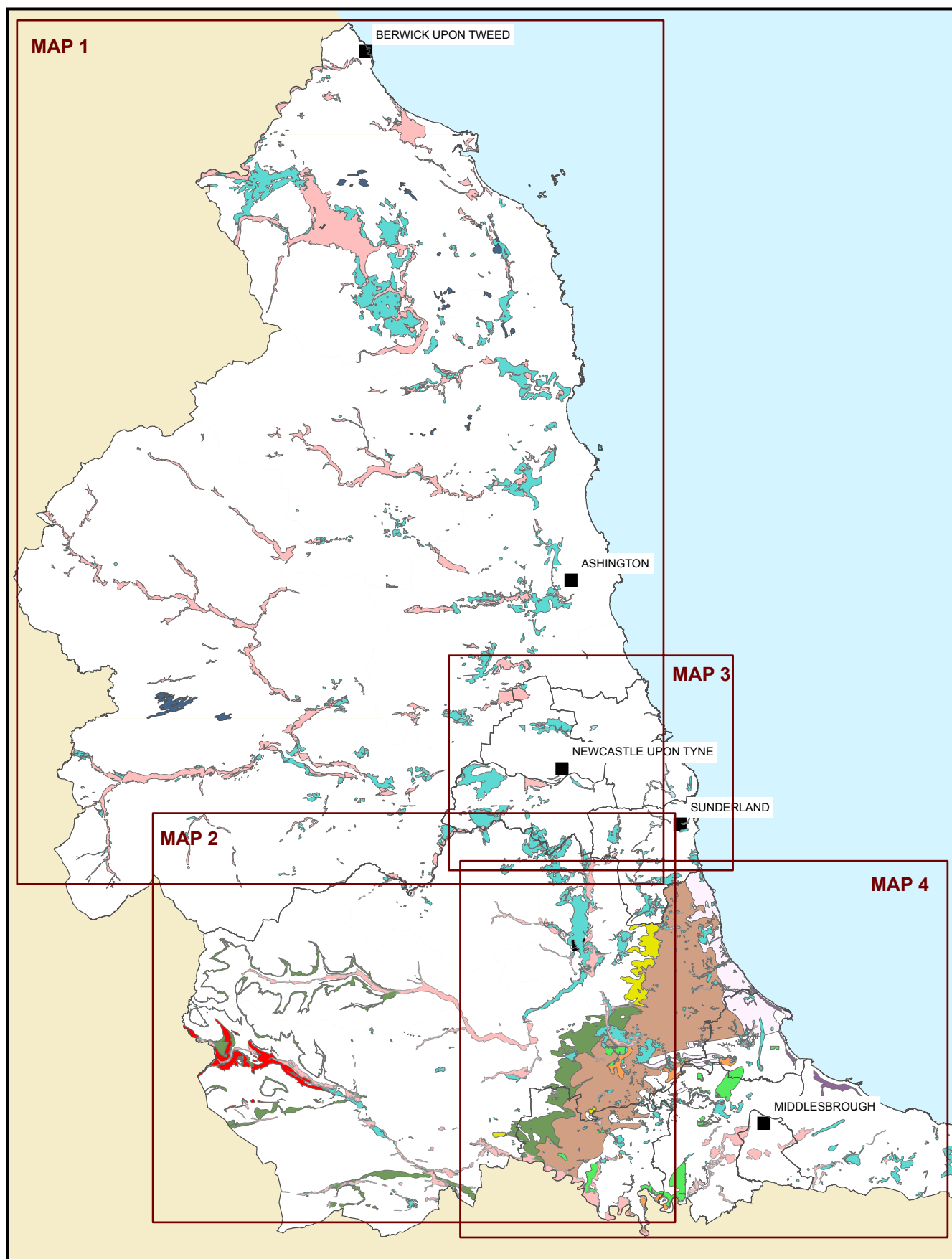


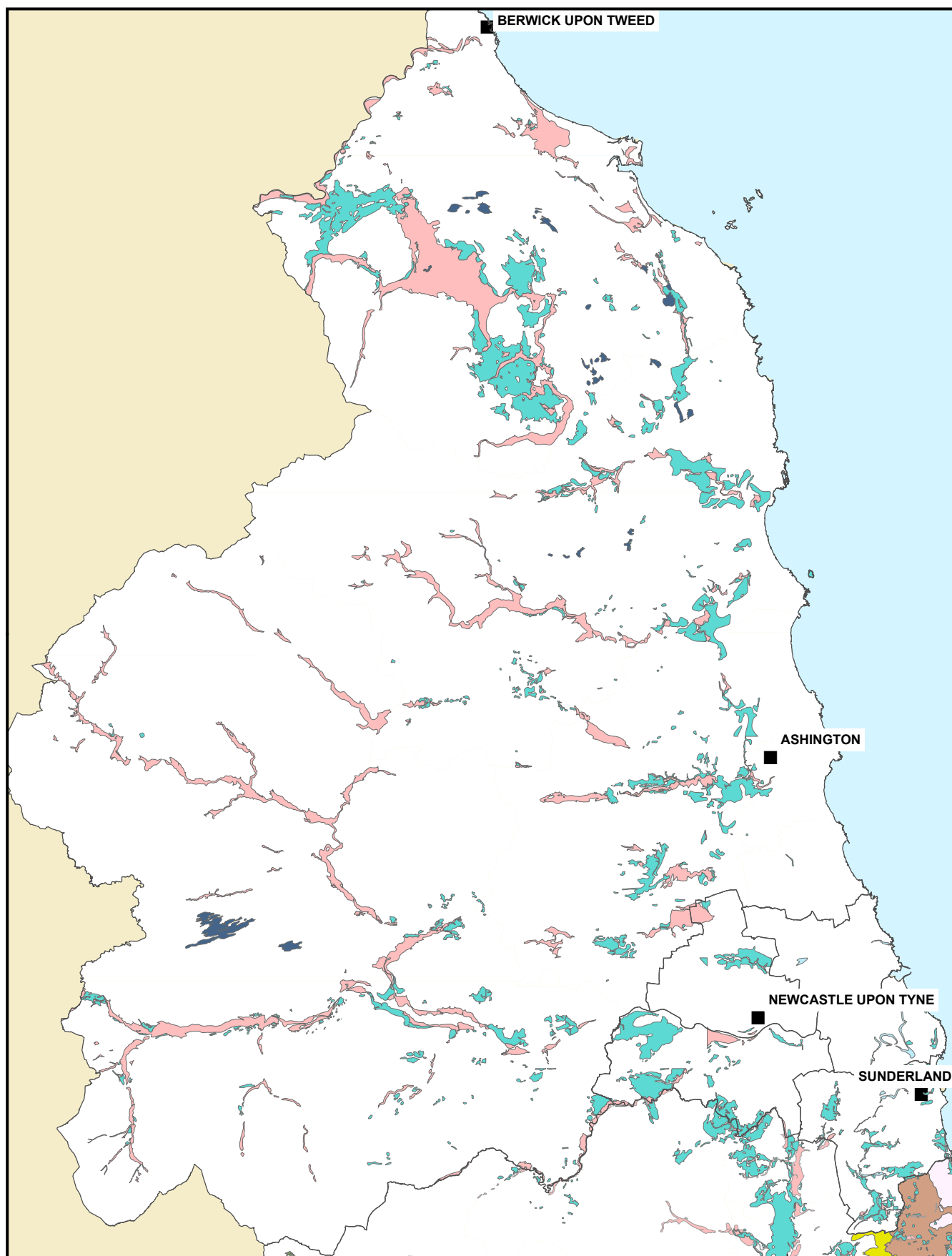


<ul style="list-style-type: none"> SSSI Ramsar SPA SAC Limestone (Carboniferous) Lower Magnesian Limestone (Permian) Middle Magnesian Limestone (Permian) Upper Magnesian Limestone (Permian) 	<ul style="list-style-type: none"> Blown Sand & Raised beach deposits Concealed Glacial Sand & Gravel in assessed areas Concealed River Sand & Gravel resources in assessed areas Glacial Sand and Gravel River Sand and Gravel Dolerite (Whin Sill) Peat 	 <p>8 Cavendish Square London, W1G 0ER Tel: 02074657200 Fax: 02074657272</p>	<table> <tr> <td>Project:</td><td>0029812</td><td>Size:</td><td>A4</td></tr> <tr> <td>Date:</td><td>25/07/05</td><td>Approved:</td><td></td></tr> <tr> <td>Drawn:</td><td>PJB</td><td>Scale:</td><td></td></tr> <tr> <td>Drawing:</td><td>Ecol_Geology mapbook.mxd</td><td>Rev:</td><td></td></tr> </table>	Project:	0029812	Size:	A4	Date:	25/07/05	Approved:		Drawn:	PJB	Scale:		Drawing:	Ecol_Geology mapbook.mxd	Rev:	
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<p>0 10 Kilometres</p> 	 <p>Geology & Ecological Design - Northumberland</p>																		

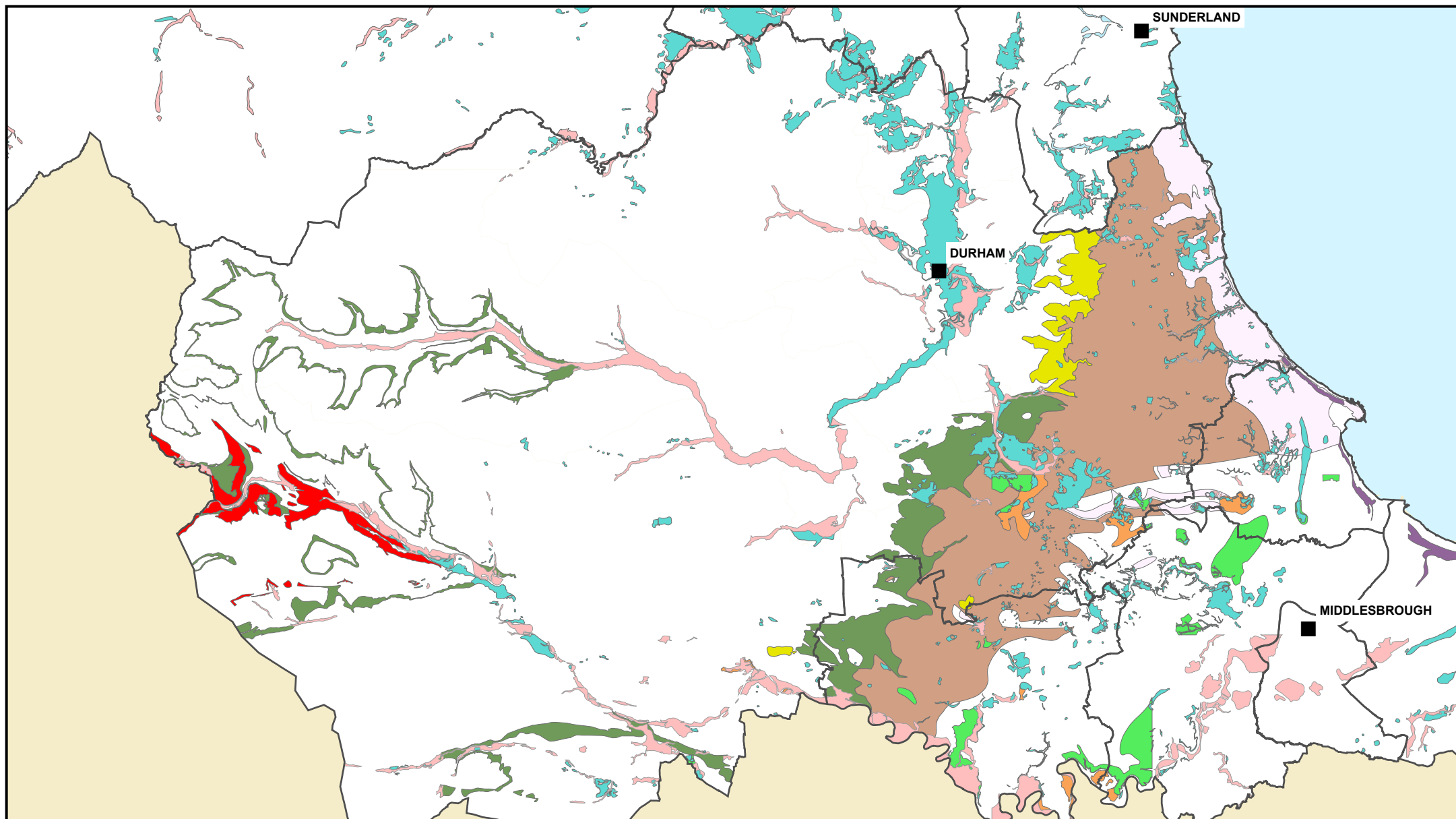








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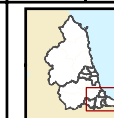
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- Blown Sand & Raised beach deposits
- Concealed Glacial Sand & Gravel in assessed areas
- Concealed River Sand & Gravel resources in assessed areas
- Glacial Sand and Gravel
- River Sand and Gravel
- Limestone (Carboniferous)
- Lower Magnesian Limestone (Permian)
- Middle Magnesian Limestone (Permian)
- Upper Magnesian Limestone (Permian)
- Dolerite (Whin Sill)
- Peat

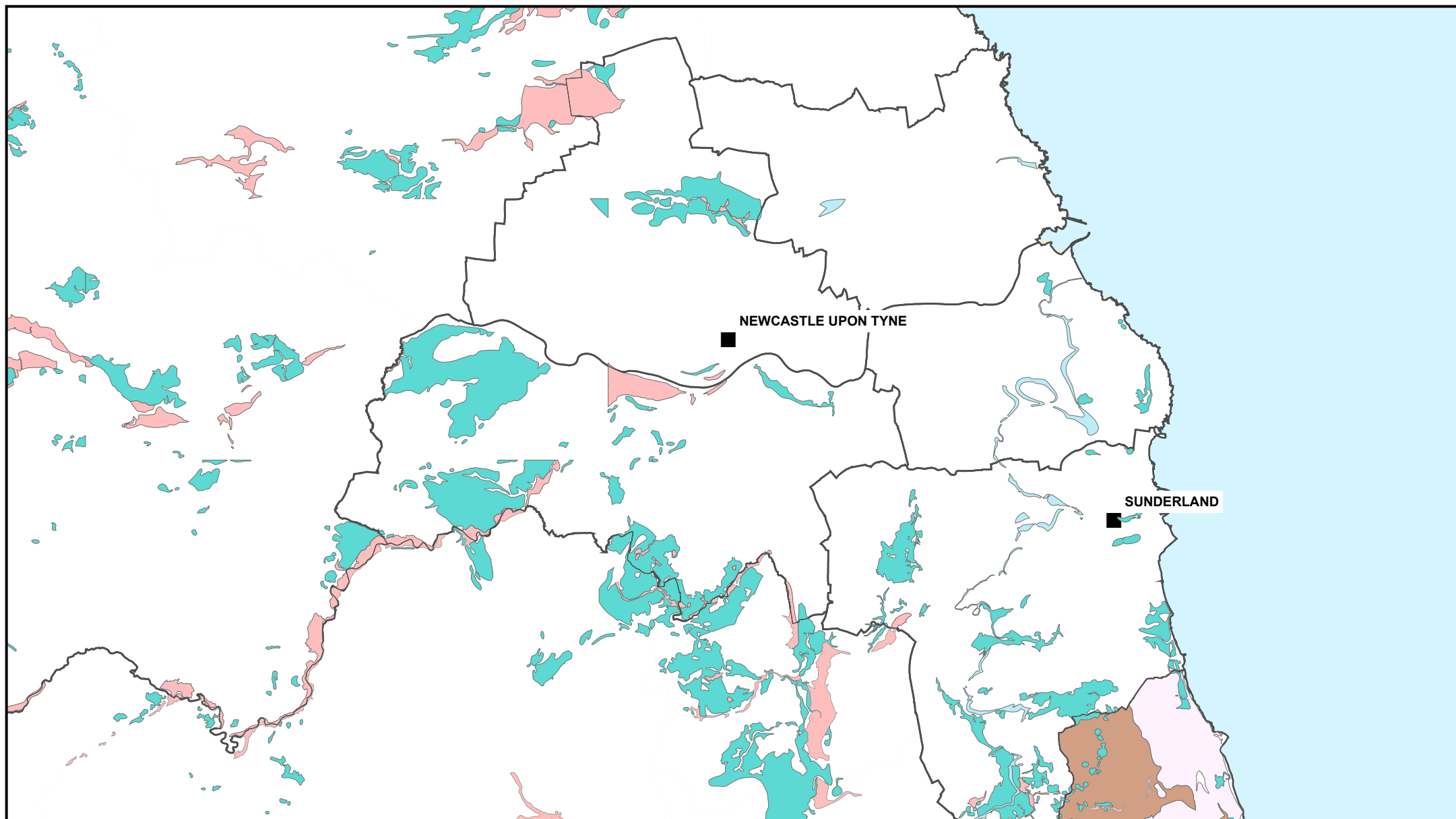


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Drawn:	PGE	Scale:	1:300K
Drawing:	GEOL_DUR	Rev:	



MAP 2: Durham
- Geology



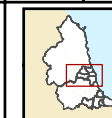
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| Concealed Glacial Sand & Gravel in assessed areas | Lower Magnesian Limestone (Permian) |
| Concealed River Sand & Gravel resources in assessed areas | Middle Magnesian Limestone (Permian) |
| Glacial Sand and Gravel | Upper Magnesian Limestone (Permian) |
| River Sand and Gravel | Dolerite (Whin Sill) |
| | Peat |
| | counties_region |

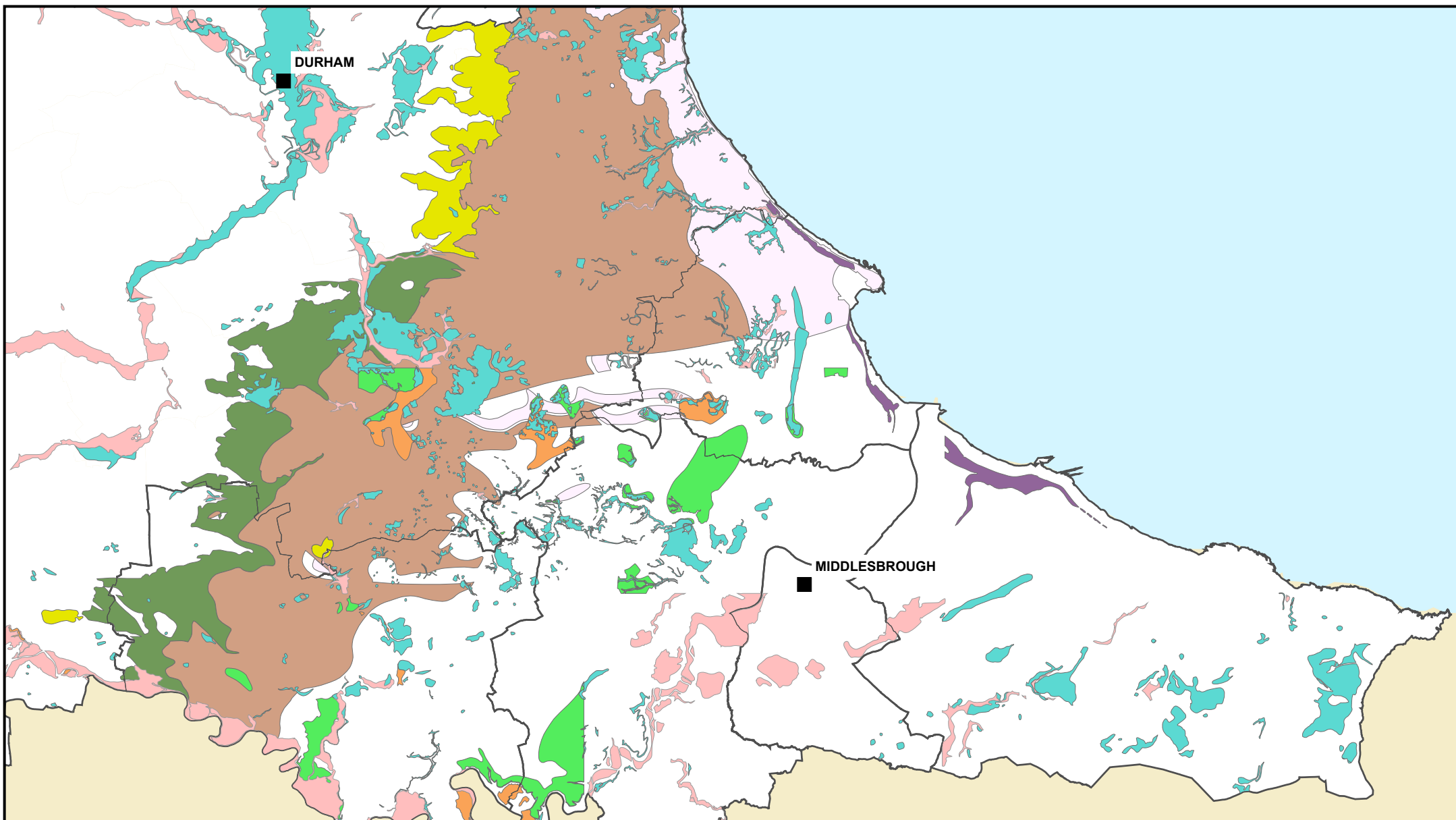


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Drawing:	GEOL_TW	Rev:	



MAP 3: Tyne and
Wear - Geology



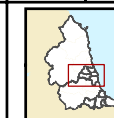
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| Concealed River Sand & Gravel resources in assessed areas | Middle Magnesian Limestone (Permian) |
| Glacial Sand and Gravel | Upper Magnesian Limestone (Permian) |
| River Sand and Gravel | Dolerite (Whin Sill) |
| | Peat |
| | counties_region |

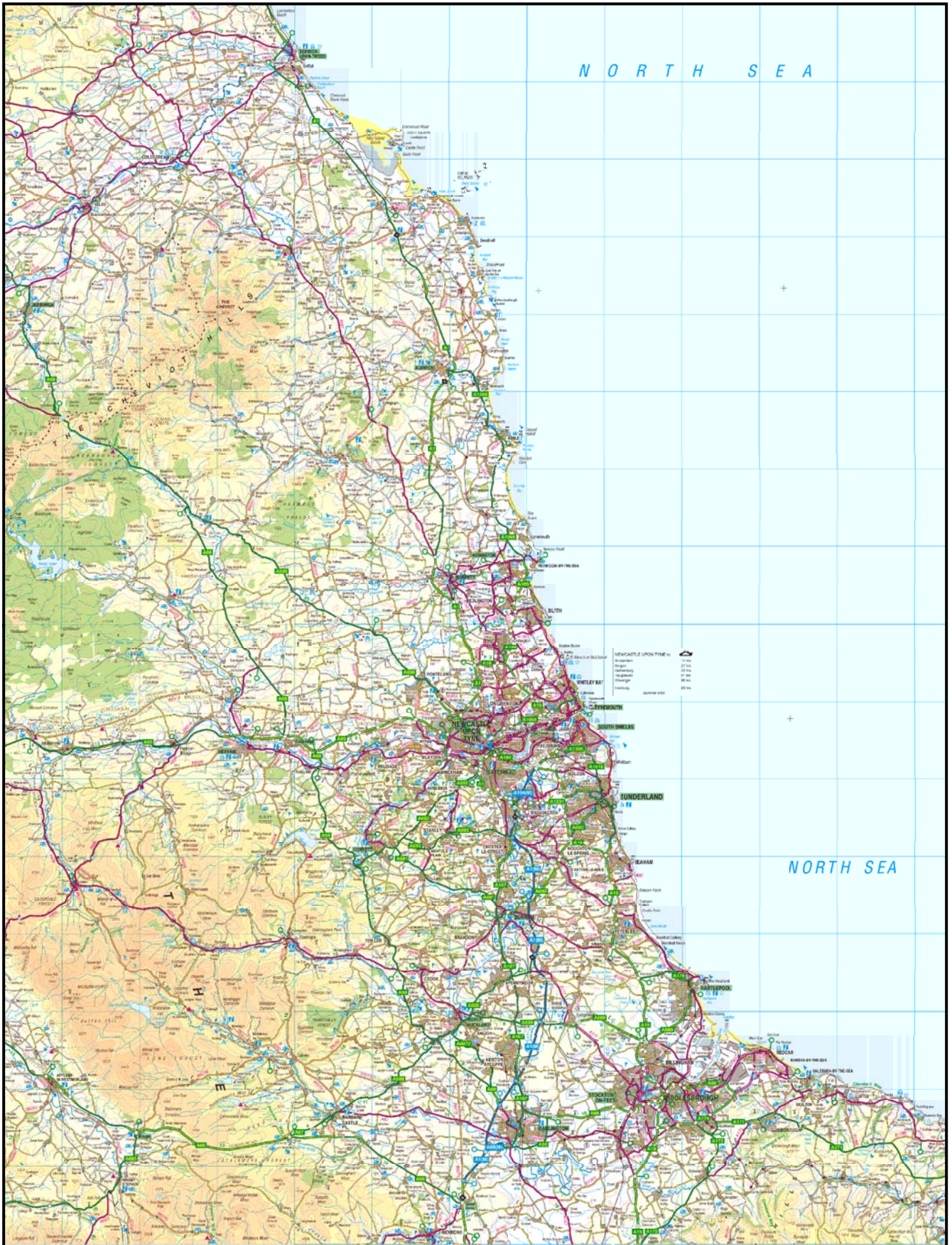


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Drawn:	PGE	Scale:	1:200K
Drawing:	GEOI_TW	Rev:	



**MAP 4: Teeside
- Geology**



 0 20 Kilometres	 8 Cavendish Square London, W1G 0ER Tel: 02074657200 Fax: 02074657272	Project:	0029812	Size:	A4
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		 Transport			



0 8
Kilometres



8 Cavendish Square
London, W1G 0ER
Tel: 02074657200
Fax: 02074657272

Source: OS 250 000

Project:	0029812	Size:	A4
Date:	17/06/05	Approved:	
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Drawing:	Transport	Rev:	



Transport & Urban
- Durham



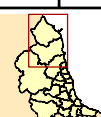
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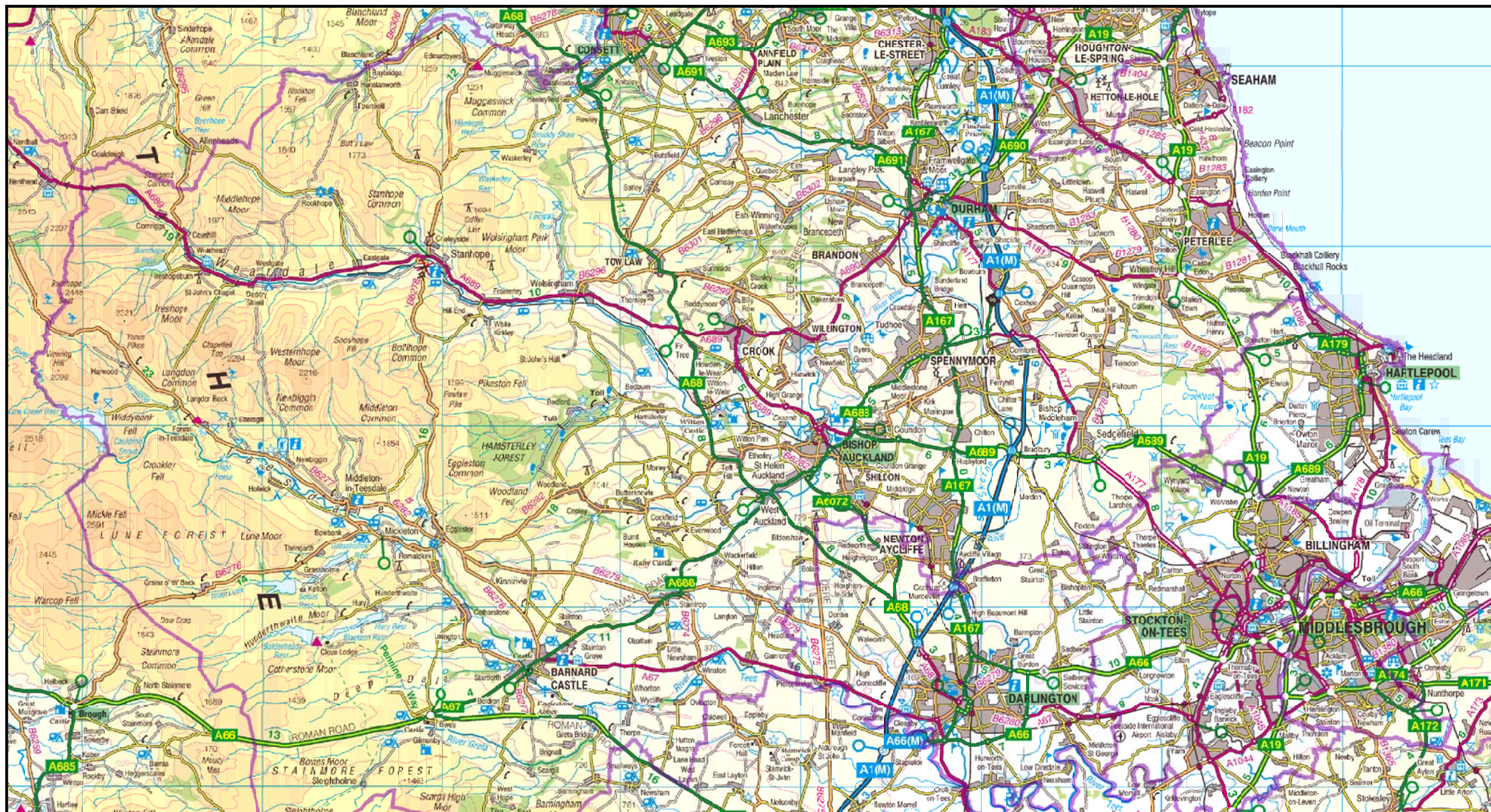
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Transport & Urban



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Kilometres



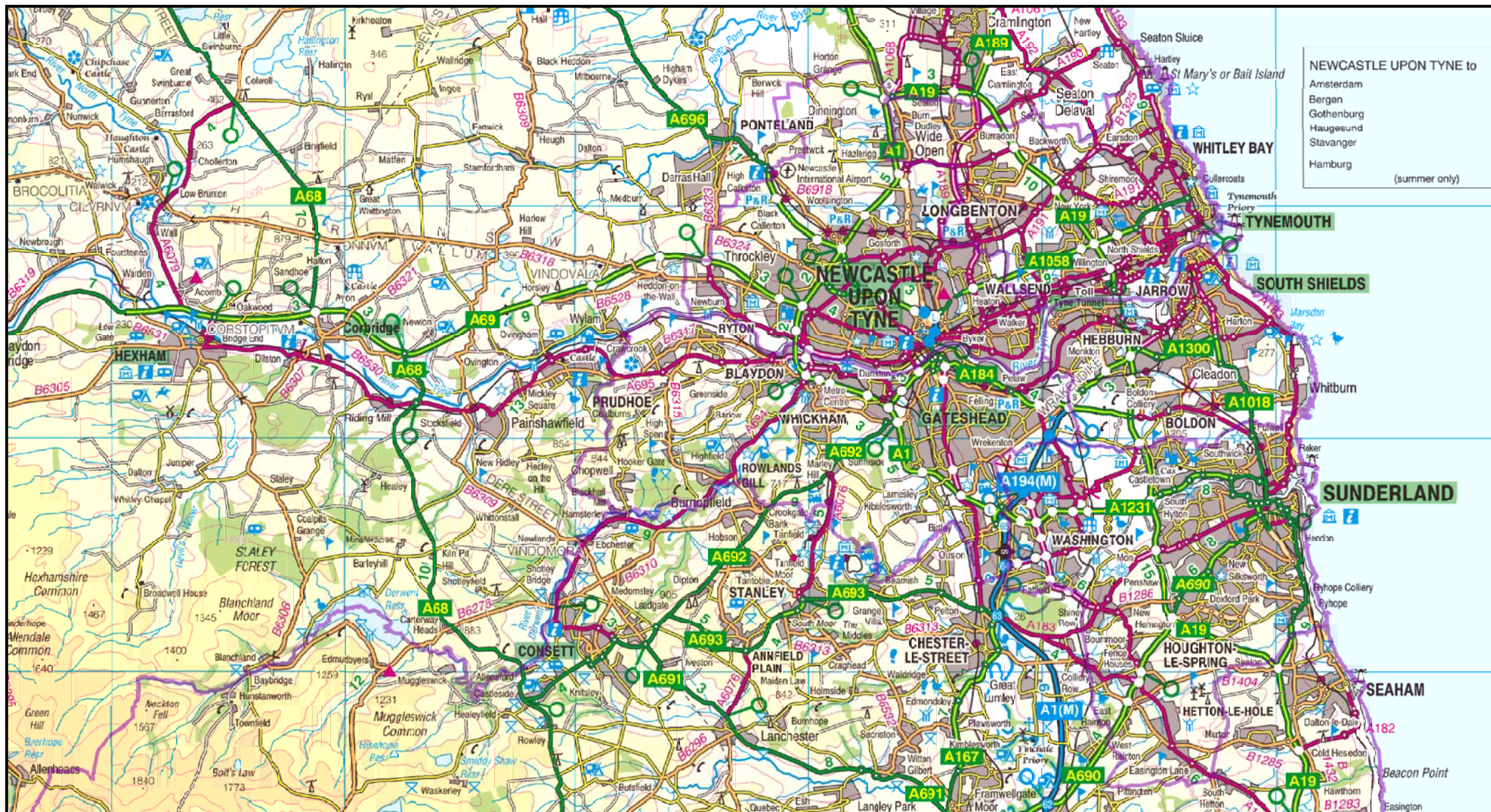
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Transport & Urban
- S. Northumberland



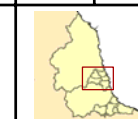
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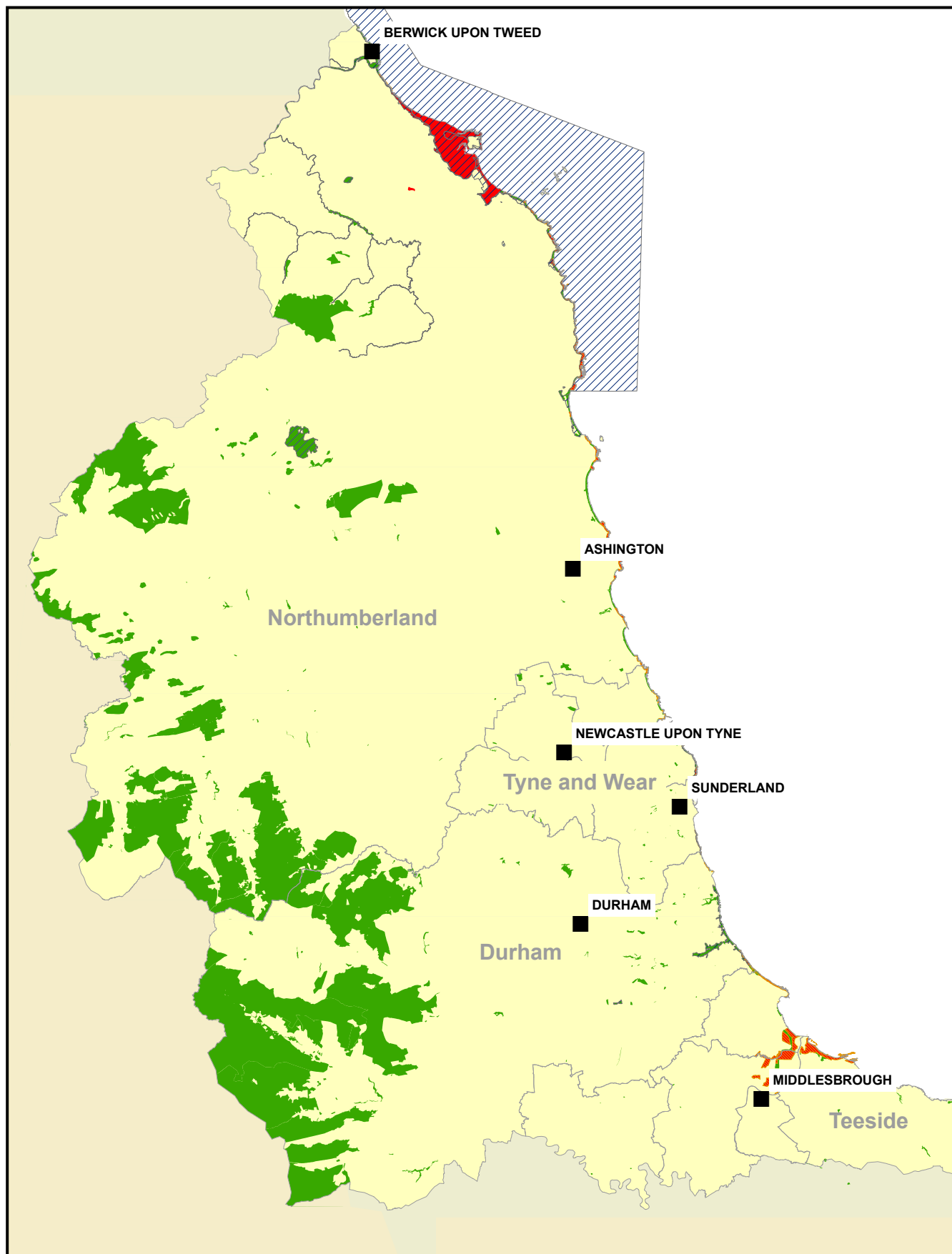
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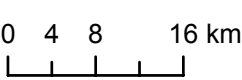





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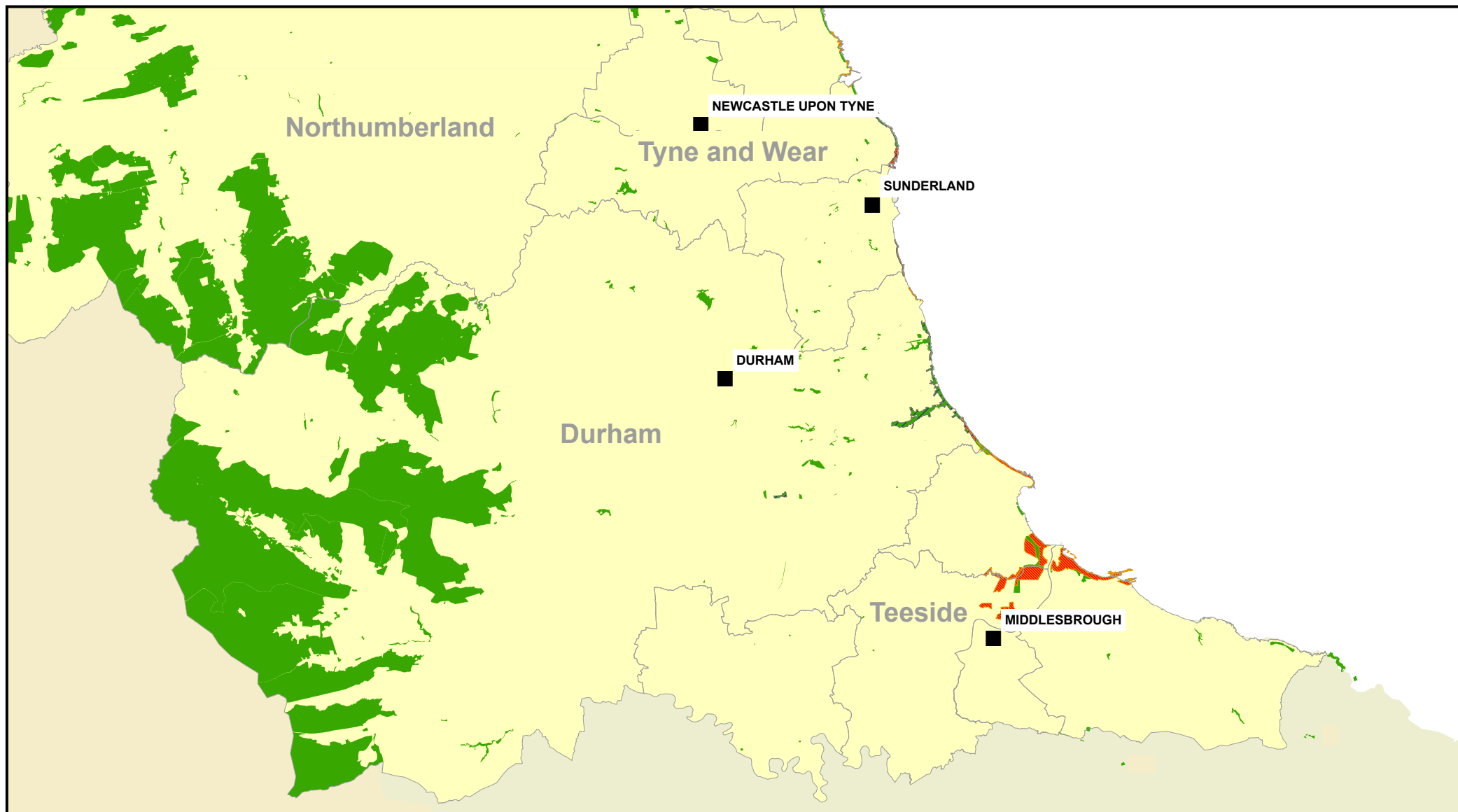
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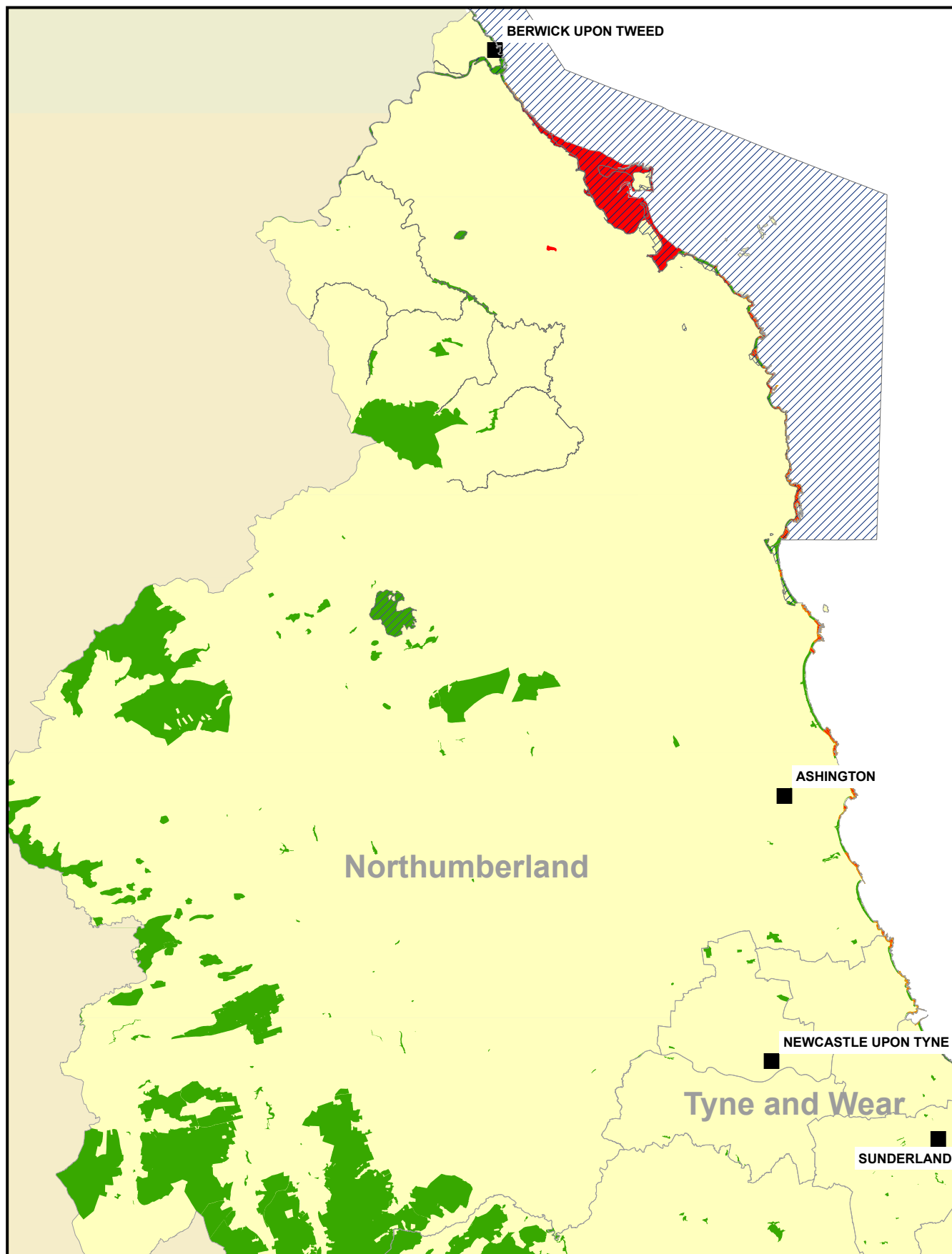
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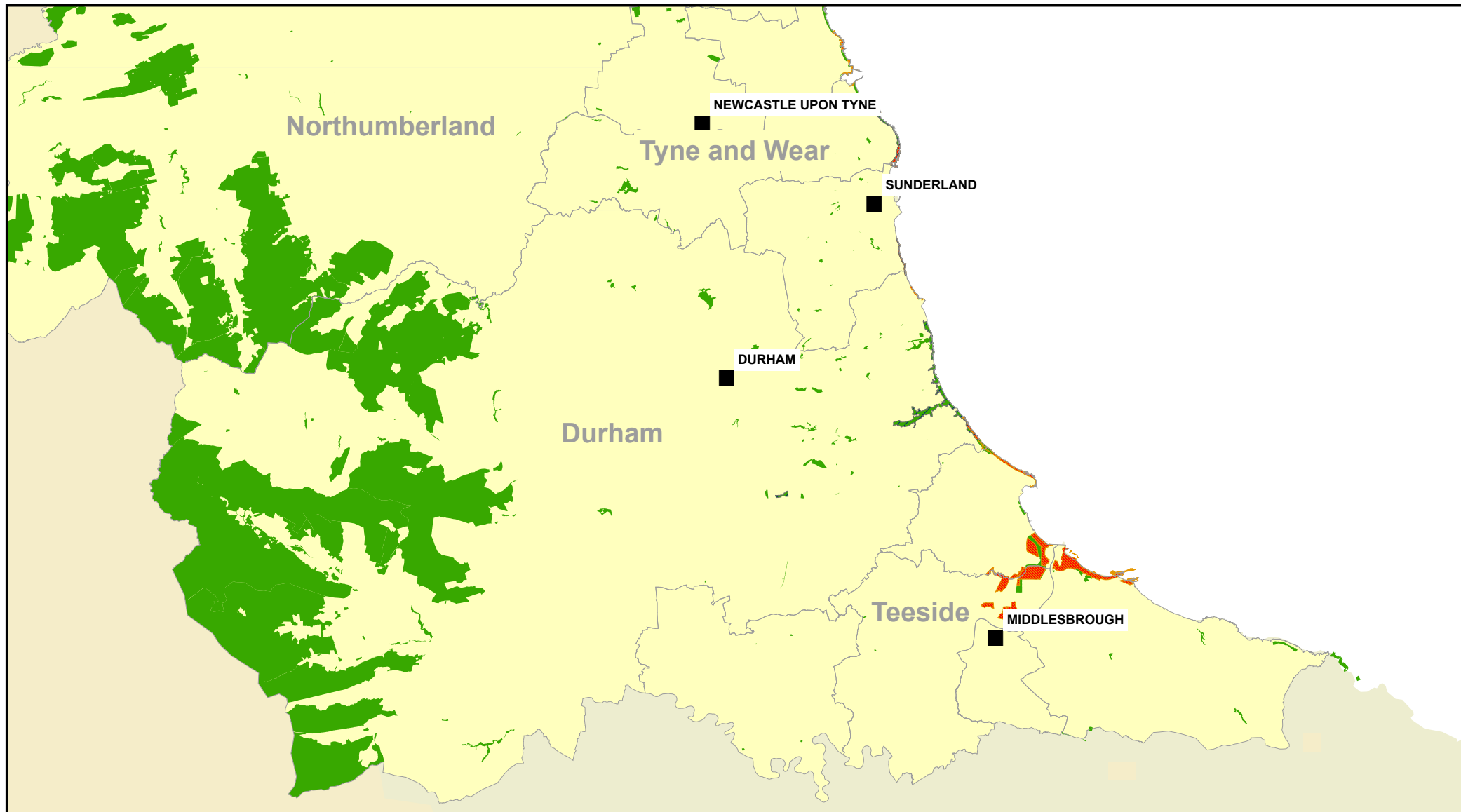
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				 NE - Ecological Design		



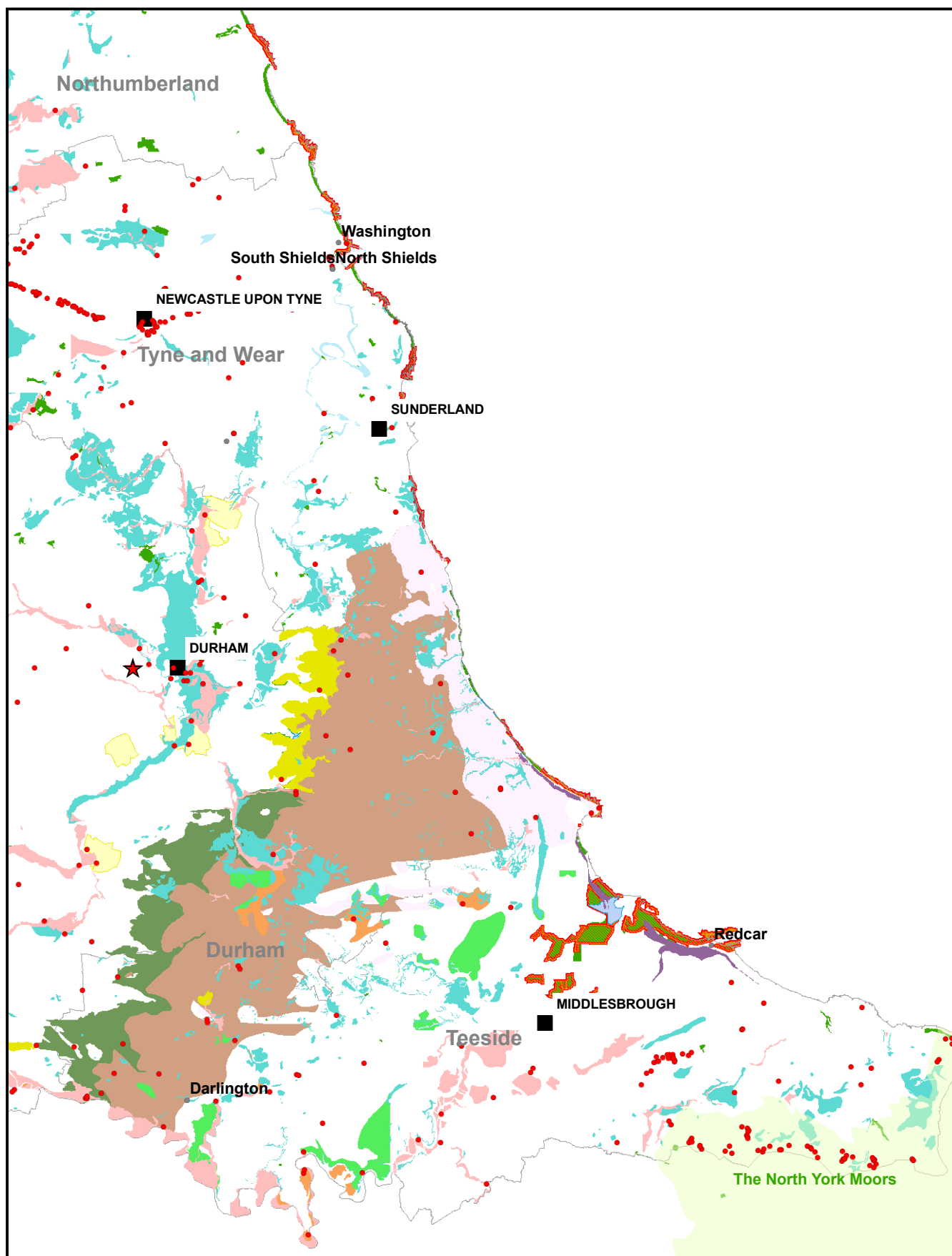
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			<p>NE - Ecological Design</p>																



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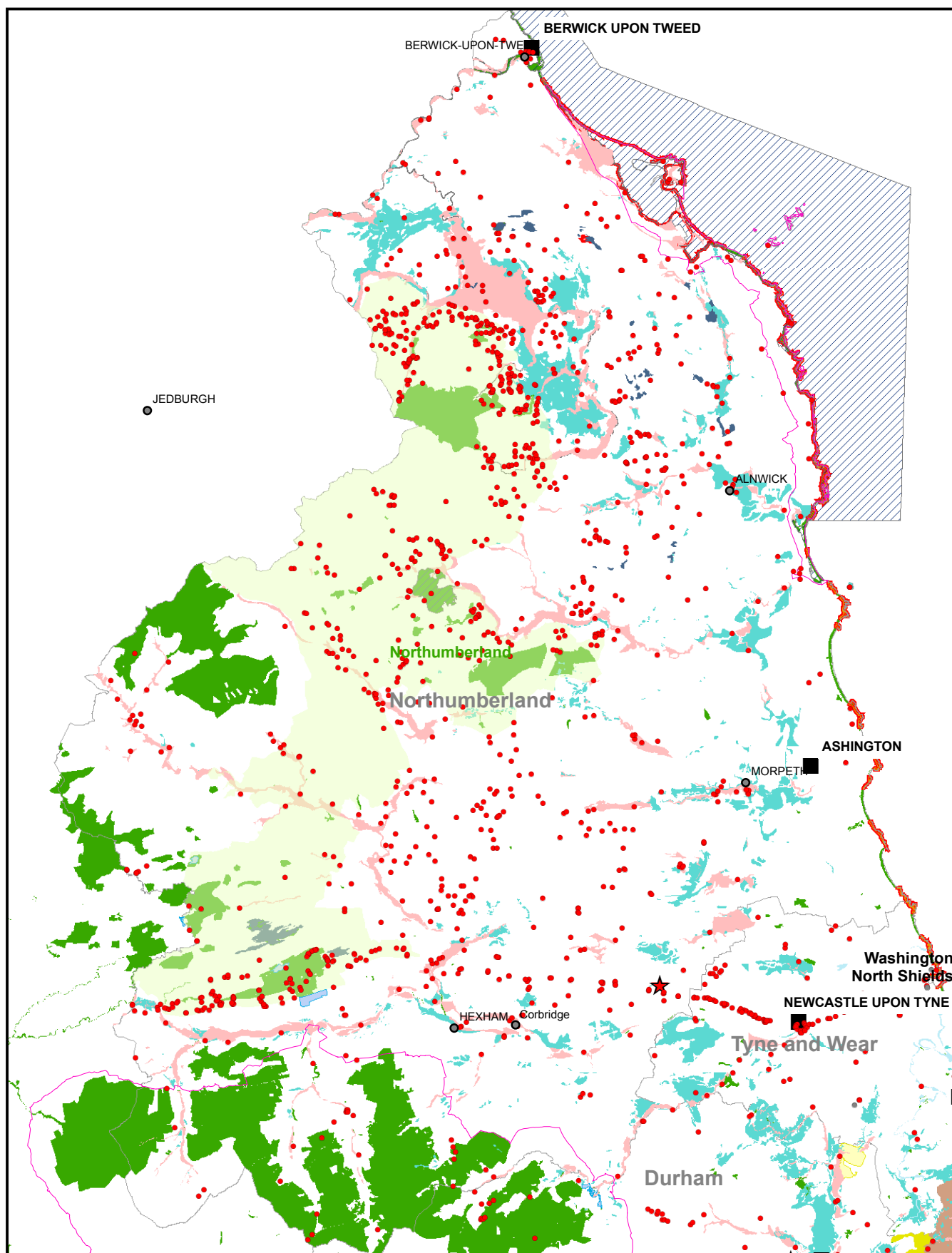
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Project:	0029812	Size:	A4
Date:	14/11/05	Approved:	
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Drawing:	All_constraints	Rev:	

Environmental Constraints
Teeside



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








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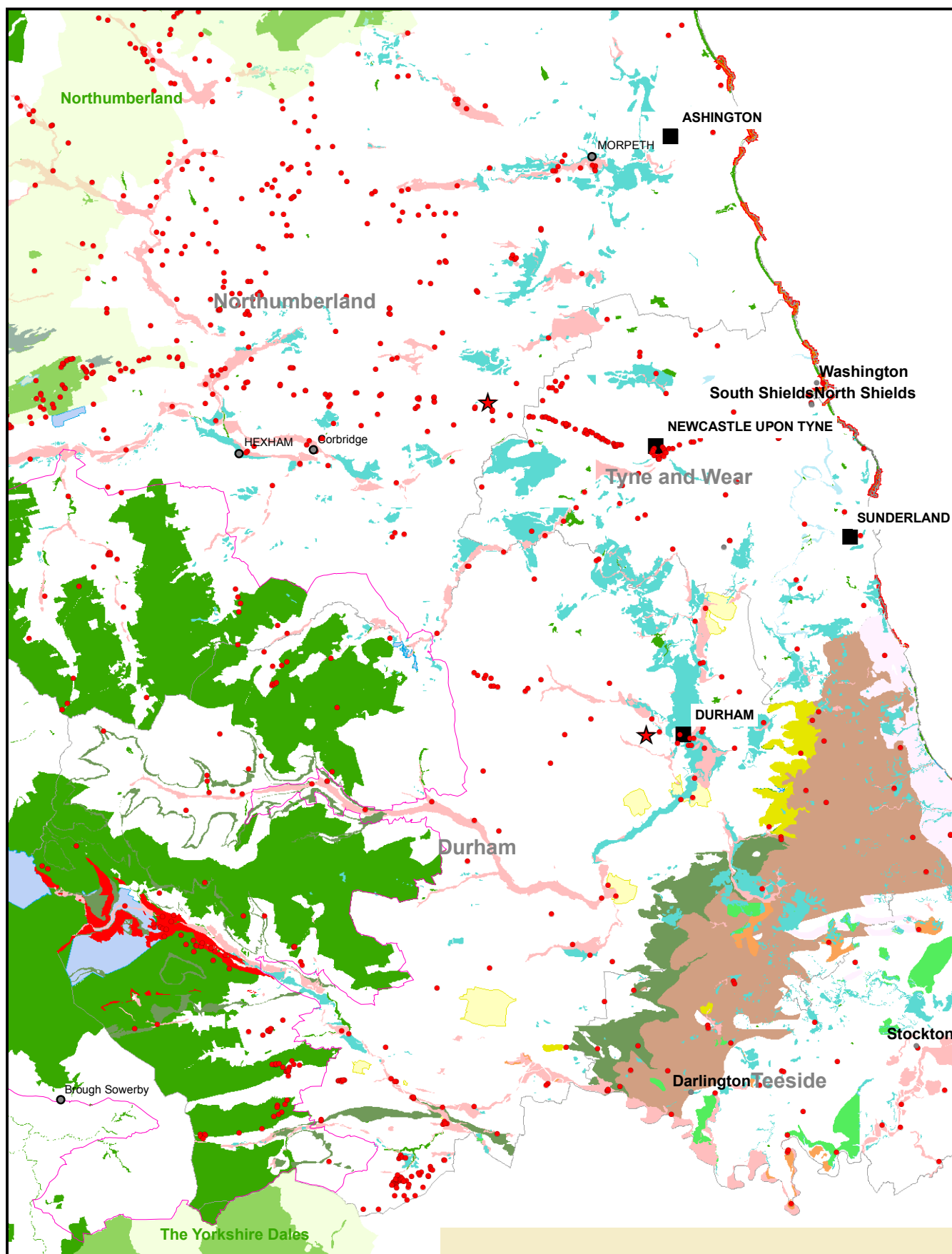
Environmental Constraints
Northumberland

Legend

-  SAC
-  SPA
-  RAMSAR
-  SSSI
-  NNR
-  Towns
-  Historic Parks & Gardens
-  National Park
-  Area of Outstanding Beauty
-  World Heritage Site
-  SAMs

Geology

-  Blown Sand & Raised beach deposits
-  Concealed Glacial Sand & Gravel in assessed areas
-  Concealed River Sand & Gravel resources in assessed areas
-  Glacial Sand and Gravel
-  River Sand and Gravel
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-  Middle Magnesian Limestone (Permian)
-  Upper Magnesian Limestone (Permian)
-  Dolerite (Whin Sill)
-  Peat



See separate page for key



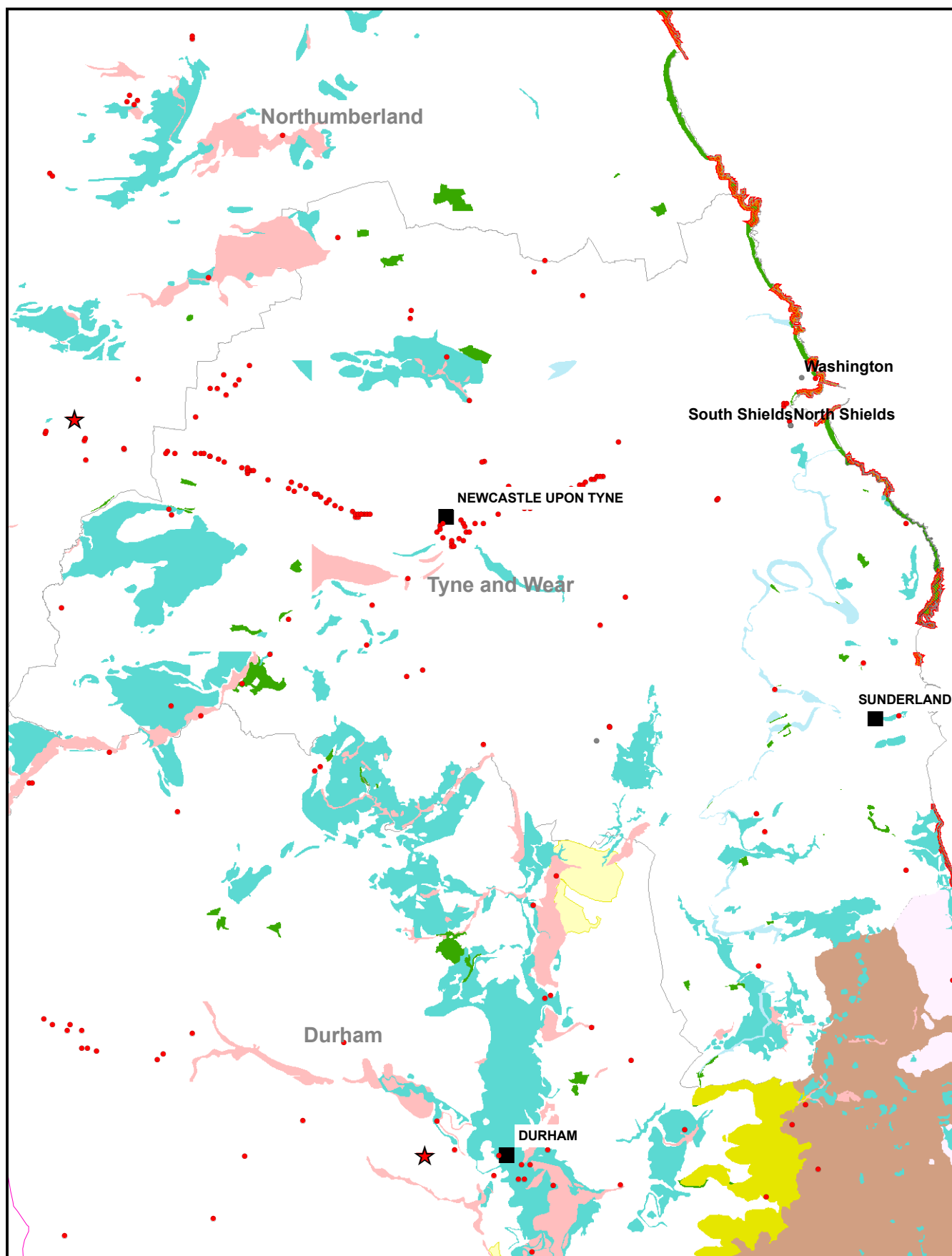
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Kilometres



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Fax: 02074657272

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Date:	14/11/05	Approved:	
Drawn:	KM	Scale:	
Drawing:	All_constraints	Rev:	

Environmental Constraints
Durham



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Environmental Constraints
Tyne & Wear