



Comhairle Ceantair  
**Lár Uladh**  
**Mid Ulster**  
District Council

## **Local Development Plan**

### **Minerals Development**

**Identification of Areas of Constraint on Mineral Development**

**&**

**Impact of Surface Development on Aggregate Resources in Mid Ulster**

**January 2019**

## **Identification of Areas of Constraint on Mineral Development**

### **1.0 Introduction**

- 1.1 The purpose of this paper is to provide background on how proposed Areas of Constraint on Mineral Development (ACMD) have been defined for the draft Plan Strategy. The paper also goes on to provide the information on the potential impact of surface development and our proposed SCA and ACMD on aggregate resources in mid ulster. The paper is to be read alongside the Minerals paper presented to Planning Committee in February 2018 and the Public Consultation Report which also considers minerals development issues.

### **2.0 Background**

- 2.1 Strategic Policy within the Strategic Planning Policy Statement (SPPS) states that our local development plan should identify areas (ACMD's) which should be protected from minerals development because of their intrinsic landscape, amenity, scientific or heritage value (including natural, built and archaeological heritage). The policy states that there should be a general presumption against minerals development in such areas. However, where a designated area such as an Area of Outstanding Natural Beauty (AONB) covers expansive tracts of land, our Plan should carefully consider the scope for some minerals development that avoids key sites and that would not unduly compromise the integrity of the area as a whole or threaten to undermine the rationale for the designation.
- 2.2 As part of the approach to mineral development in Mid Ulster, ACMD's were presented as the preferred option within the LDP Preferred Options Paper (along with Mineral Reserve Policy Area and tailored policy for Mineral Development). Following consultation on the POP and consideration of all of the representations received the approach to where ACMD's should be located has been clarified and adjusted having taken further advice from DFE/GSNI and having considered the impact of surface development on aggregate resources and also having undertaken a Landscape Character Assessment Review.
- 2.3 In our plan preparation we have identified those areas where the landscape or heritage that is so sensitive that it should either be protected from all forms of development by way of an Special Countryside Area or specifically protected from the development of high structures by way of an Area of Constraint on Wind Turbines and High Structures (AOCWTHS). The rationale for these designations is set out in separate papers.

### **3.0 ACMD Designation – Methodology and Justification**

- 3.1 In line with the SPPS we have identified those areas of our district where their intrinsic landscape, amenity, scientific or heritage value (including natural, built and archaeological heritage) means they should be protected from mineral extraction. It should be noted that these attributes are not necessarily mutually

exclusive and several areas combine several of these characteristics, e.g. area around and east of Beaghmore ASAI which contains many sites of significant archaeological interest and is also of important landscape value as a result as well as containing many important nature conservation areas include the designations around Teal Lough.

- 3.2 Because of their nature, scale, location and duration of operation, mineral developments often impact more severely on the environment than other forms of development. They may damage or destroy nature conservation sites and structures and remains of historic and archaeological interest that are of importance. They can also have a significant visual effect on the landscape and on peoples living conditions.
- 3.3 In identifying ACMD's in our district and defining their boundary we have largely aligned with the areas of SCA that have been identified as being areas where the landscape or heritage features are so sensitive that they should be protected from all forms of development and with the AOCWTHS where the sensitivities of the landscape are such that they could not acceptably take the development of high structures.
- 3.4 The concept of an SCA is introduced within the Strategic Planning Policy Statement (SPPS). The SPPS highlights that some areas of the countryside exhibit exceptional landscapes, such as stretches of lough shores, and certain views or vistas, wherein the quality of the landscape and unique amenity value is such that development should only be permitted in exceptional circumstances. The SPPS goes on to state that where appropriate these areas should be designated as SCAs in Local Development Plans, and appropriate policies brought forward to ensure their protection from unnecessary and inappropriate development. How the SCA has been defined is set out in a separate background paper.
- 3.5 In identifying the lines of the ADCMD we have also sought to identify and exclude that those areas with the largest concentration of quarries so as to ensure that the minerals industry in Mid Ulster can continue to contribute to the construction industry and the economy in mid ulster and in Northern Ireland. The quarries in Mid Ulster (based on the information available to us) are mapped at Appendix 1. The map at Appendix 2 reflects the issues under consideration in identifying the ACMD lines.
- 3.6 The important point to make in relation to all of those areas outside of the proposed ACMD is that any mineral development coming forward will still have to satisfy the criteria and tests of Policy MIN 2 as well as the General Principles Planning Policy, Natural Heritage and Historic Environment. This is particularly important for those sites recognised internationally, nationally and regionally as being important and are protected for their wildlife, scientific value or heritage interests such as ASSI's, SACs, SPAs and RAMSARs. In effect these also act as areas of constraint on mineral development in their own right given the protection afforded to them through separate legislation but also through the application of our Natural Heritage policies.

### **Sperrins and Slieve Gallion**

- 3.7 An area of ACMD has been identified in the Sperrins to sit alongside the proposed SCA designation. The prominent ridges as identified in NILCA 2000 have been largely used as the inward extent of the ACMD line which then runs to the SCA line. The line chosen within the Sperrins, including around Beaghmore, Lough Fea and Slieve Gallion largely follows the line of the proposed AOCWTHS. These areas comprise of Beaghmore and the High Sperrin's which are rich in terms of archaeology and represent the wilder, unspoilt and most scenically valuable parts of this Area of Outstanding Natural Beauty. It excludes those areas where there is a large concentration of existing quarries. The quarries within our District are map against the ACMD and SCA line in Appendix 1 and it can be seen from this map that the concentration of quarries close to Lough Fea and to the south of it and to the south east of Davagh have been excluded. Areas south of and just north of the A4 have also been excluded due to the large concentration of quarries in this area.

### **Clogher Valley and Ridges and Slieve Beagh**

- 3.8 NIEA advise that the Clogher Valley is an area of important Earth Science value in relation to the glacial history of north Ireland and by extension the British-Irish Ice Sheet (BIIS). The glacial landforms are superb and remain essentially intact as there has been little commercial extraction on them, hence the rationale for the proposed ACMD covering these landforms. There is currently much international research into the extent, timing and retreat of the BIIS so such areas remain extremely important to ice sheet reconstruction. NIEA also advise that The Clogher Valley area was highlighted through the Earth Science Conservation Review (ESCR) which detailed the sites and areas of geological conservation interest in Northern Ireland – all the sites identified are considered as potential ASSIs so while there may not have been ASSI declarations specific to the geological interest of the area yet, that does not mean there will not be in the future.
- 3.9 The ACMD also includes the Clogher Valley and its escarpment because of its scenic value, and has been extended to include Slieve Beagh, which is also internationally important as a natural habitat. At Slieve Beagh the line of the ACMD largely follows that of the proposed AOCWTHS so as to ensure that this wild and unspoilt unique landscape and international environmental designation is protected from mineral development.

### **Shores of Lough Neagh and Lough Beg and Lower River Bann**

- 3.10 The Lough Neagh / Lough Beg / Lower River Bann shorelines are considered to be particularly sensitive to all types of development given their wealth of natural heritage features, and their high scenic quality. This area has a wealth of nature conservation interests, represented by the numerous international and national environmental designations and also possesses a significant number of historic and cultural assets located along its shoreline. The Special Countryside Area around the shores Lough Neagh introduces a tight constraint on all development including mineral extraction in recognition of its landscape qualities and the international importance of this wet land. Whilst the shores are designated an SCA as are therefore protected from extraction

the plan has not introduced an SCA on the Lough, which has historically been used for sand dredging. This activity is subject to a regionally significant application being dealt with by Department of Infrastructure. Mid Ulster council will review the approach to extraction in light of the outcome of that application. In the interim the Lough continues to be afforded protection by other statutory bodies through the various environmental designations that have been placed on it by virtue of the RAMSAR, SPA and SAC and ASSI designations.

#### **4.0 Impact of Surface Development, ACMD and SCA designations on aggregate resources in Mid Ulster**

- 4.1 This information has been compiled following advice from GSNI will detail the level of aggregate commodity availability at surface level before and after Infrastructure buffers and ACMD and SCA designations are applied.

##### **Aggregate Resource Distribution**

- 4.2 In 2012 British Geological Survey produced Mineral Resource maps for Northern Ireland, these maps inferred the distribution of aggregate resources. This can be seen below for Mid Ulster District (Fig 1). It indicates the location of each resource over the council area as either continuous rock units or discrete, near surface packages. At this point it does not take into account any infrastructure, dwellings or waterways (excluding Lough Neagh). All of which are locations where extraction of the resource would be restricted or impossible.
- 4.3 In order to assist with gathering an evidence base to support the suggested ACDM and SCA designations where mineral extraction would conflict with the Plan, a mapping exercise was carried out using ArcGIS software to remove Infrastructure from the resource packages to demonstrate the effect that this has on the availability of the resource and the ability of it to be worked economically.

##### **Method**

- 4.4 LPS datasets for house locations (the Pointer database), road network (at 1:50,000) and water body network (at 1:50,000) were sourced and combined into a single GIS feature. For the purpose of this exercise, each location in the Pointer database was buffered to 100m and each road and water body was buffered to 50m from the centreline, to create a network of locations where mineral extraction would not be permitted or possible. The resulting feature is pictured in Figures 2 and 3 showing a close up of the network of buffered locations (Figure 2) and the same location with the LPS air photography displayed (Figure 3) showing housing and road networks.

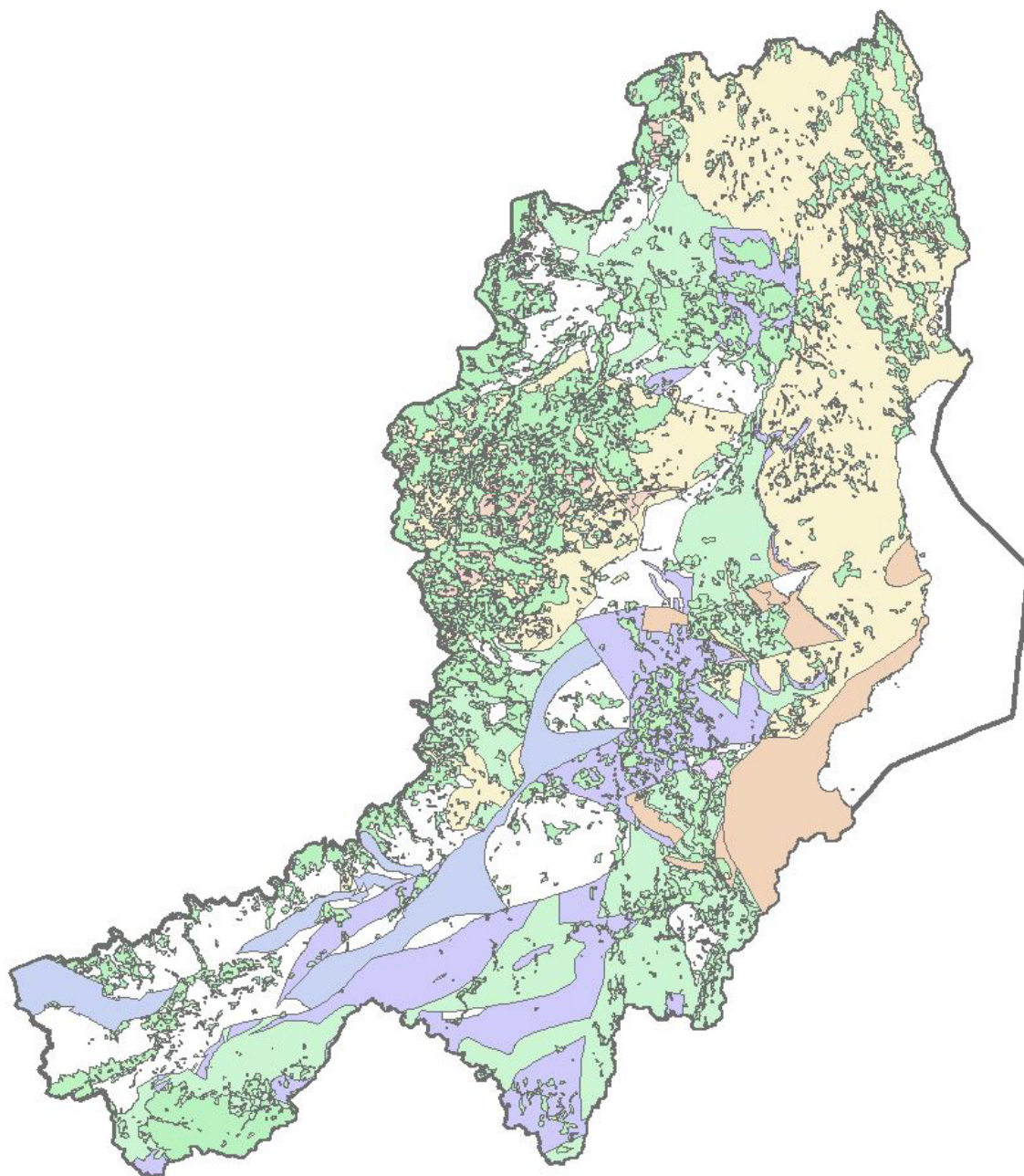


Fig 1: Aggregate resource Mid Ulster



Fig 2

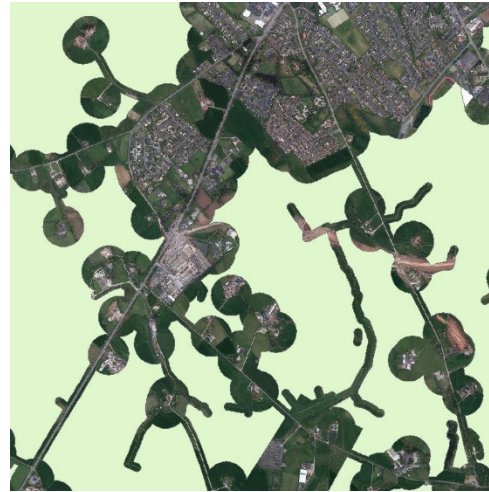


Fig 3

- 4.5 Each of the resource polygons were clipped to remove the buffered areas leaving the amount of each resource available at surface level. This process resulted in many land parcels being created which would be of surface size inadequate to run a viable operation from. To determine a cut-off point for the size of individual polygons to be retained, the average size of quarry operations was calculated using ortho photography to be 0.15km<sup>2</sup>. All polygons in the data set that are produced by the removal of the infrastructure and water, which were smaller than this number were removed, and the aerial extent of the resulting polygons calculated. This resulting number is an approximation of the available commodities in the Mid Ulster District area that occurs as a large enough package to be economically worked before we apply our proposed designations. Table 1 below details the results.

Resource	NI Resource Clipped to Mid Ulster (km2)	GSNI Buffered Info & Below 0.15sqkm Removed	% Reduction due to infrastructure
Silica Sand 50k	27.22	0	0.00
Sandstone 50k	371.76	160.92	56.70
Sand and Gravel 50k	246.53	64.51	26.17
Peat 50K	273.35	173.8	36.42
Metasedimentary 50k	51.78	32.55	37.14
Limestone 50k	245.67	109.38	55.48
Limestone 50 K buffer	3.14	0.72	77.07
Igneous and Meta igneous Rock 50k	599.03	294.73	50.80
Dolomite 50k	1.3	0.36	72.31
Conglomerate 50K	83.25	37.37	53.91
Coal and Lignite 50k	5.88	1.14	80.61
Clay 50k	84.99	31.71	62.69

Table 1

### **ACMD and SCA Implications**

- 5.0 The final part of the process is to consider the land cover of the proposed Area of Constraint on Mineral Development and the Special Countryside Area proposals as mapped in Appendix 1. When all the potential resource located (wholly or partially) within these proposed designations is removed the availability of economically viable land is then reduced. Table 2 shows the results of this exercise. Notably Sand and Gravel which is Mid Ulster's key resource has a total reduction of 79%
- 5.1 Upon further analysis of the results and how quarries are situated within Mid Ulster in relation to the existing Infrastructure, the buffers for infrastructure and waterways were reduced from 50m's for each to 20m's for each. This was thought to be more realistic buffers for the district. Table 3 details the results of this exercise and produced minimal differences.
- 5.2 To complete the exercise to establish as much economically viable land for quarrying processes as possible the pointer data was removed from the calculations and instead 100m buffers were placed around each settlement within Mid Ulster District. (Table 4) The theory being that a quarry operator could potentially buy a single dwelling in the countryside in order to overcome that issue if it meant operating or not. The same cannot be said for an entire settlement. It is considered that this methodology is a much more realistic proposition for our district and therefore the result in Table 4 provide a picture of the resource that could be available in Mid Ulster if we are to apply the ACMD and SCA as proposed in Appendix 1.

Table 2: MU Aggregate Resource with Infrastructure Buffered @ Roads & Water 50m and Domestic properties 100m

Resource	MU clipped Resource sqkm	Remaining quantities following GSNI Buffered Info & Below 0.15sqkm Removed	Difference	% Reduction due to infrastructure	Remaining quantities following Clipped to ACMD	Remaining quantities following Clipped to SCA (Lough Neagh & Beg)	Remaining quantities following Clipped to SCA and ACMD Total	Remaining Quantities following GSNI Buffered, Below 0.15sqkm removed, ACMD removed and SCA removed	Difference	Total % Reduction due to infrastructure and Planning Policy
** Silica Sand 50k	27.22	27.22	0	0.00	27.22	27.22	27.22	27.22	0	0.00
Sandstone 50k	371.76	160.92	210.84	56.70	43.6	0	43.6	117.32	254.44	68.44
Sand and Gravel 50k	246.53	64.51	182.02	73.83	12.15	0.79	12.94	51.57	194.96	79.08
Peat 50K	273.35	173.8	99.55	36.42	103.32	4.97	108.3	65.51	207.84	76.03
Metasedimentary 50k	51.78	32.55	19.23	37.14	15.29	0	15.29	17.26	34.52	66.67
Limestone 50k	245.67	109.38	136.29	55.48	5.17	0	5.17	104.21	141.46	57.58
Limestone 50 K buffer	3.14	0.72	2.42	77.07	0	0	0	0.72	2.42	77.07
Igneous and Metaigneous Rock 50k	599.03	294.73	304.3	50.80	61.69	12.99	74.68	220.05	378.98	63.27
Dolomite 50k	1.3	0.36	0.94	72.31	0	0	0	0.36	0.94	72.31
Conglomerate 50K	83.25	37.37	44.88	53.91	9.52	0	9.52	27.85	55.4	66.55
Coal and Lignite 50k	5.88	1.14	4.74	80.61	0	0	0	1.14	4.74	80.61
Clay 50k	84.99	31.71	53.28	62.69	0	0	0	31.71	53.28	62.69

\*\*Silica Sand 50k resource quantities is unaffected by the actions in this table due to its spatial location within Mid Ulster



Table 3: MU Aggregate Resource with Infrastructure Buffered @ Roads & Water 20m and Domestic properties 100m

Resource	MU clipped Resource sqkm	Remaining quantities following GSNI Buffered Info & Below 0.15sqkm Removed	Difference	Remaining quantities following Clipped to ACMD	Remaining quantities following Clipped to ACMD	Remaining quantities following Clipped to SCA (Lough Neagh & Beg)	Remaining quantities following Clipped to SCA and ACMD Total	Remaining Quantities following GSNI Buffered, Below 0.15sqkm removed, ACMD removed and SCA removed	Difference	Total % Reduction due to infrastructure and Planning Policy
** Silica Sand 50k	27.22	27.22	0	0.0	27.22	27.22	27.22	27.22	0	0.00
Sandstone 50k	371.76	215.11	156.65	42.14	53.25	0	53.25	161.86	209.9	56.46
Sand and Gravel 50k	246.53	75.46	171.07	69.39	12.13	0.84	12.97	62.49	184.04	74.65
Peat 50K	273.35	187.95	85.4	68.76	91.97	1.11	93.08	94.87	180.27	65.95
Metasedimentary 50k	51.78	39.66	12.12	31.24	12.69	0	12.69	26.97	39.09	75.49
Limestone 50k	245.67	134.34	111.33	45.32	5.8	0	5.8	128.54	117.13	47.68
Limestone 50 K buffer	3.14	0.66	2.48	78.98	0	0	0	0.66	2.48	78.98
Igneous and Metaigneous Rock 50k	599.03	365.41	233.62	39.00	75.42	6.17	81.59	283.82	315.21	52.62
Dolomite 50k	1.3	0.42	0.88	67.69	0	0	0	0.42	0.88	67.69
Conglomerate 50K	83.25	49.93	33.32	40.02	12.83	0	12.83	37.1	46.15	55.44
Coal and Lignite 50k	5.88	1.65	4.23	71.94	0	0	0	1.65	4.23	71.94
Clay 50k	84.99	33.29	51.7	60.83	0	1.72	1.72	31.57	53.42	62.85

\*\* Silica Sand 50k resource quantities is unaffected by the actions in this table due to its spatial location within Mid Ulster District

Table 4: MU Aggregate Resource with Infrastructure Buffered @ Roads & Water 20m and Settlement Limits 100m

	A	B	C	D	E	F	G	H	I	J
Resource	MU clipped Resource sqkm	Remaining quantities following 20m Buffered R&W, 100M Buffered Sett & Below 0.15sqkm Removed	Difference (A-B)	% Reduction due to infrastructure	Remaining quantities following Clipped to DS ACMD (25/07/2018)	Remaining quantities following Clipped to SCA (Lough Neagh & Beg)	Remaining quantities following Clipped to SCA and ACMD Total	Remaining quantities following 20m Buffered R&W, 100M Buffered Sett Below 0.15sqkm removed, ACMD removed and SCA removed (B-G)	Difference (A-H)	Total % Reduction due to infrastructure and Planning Policy
** Silica Sand 50k	27.22	27.22	0	0.00	27.22	27.22	27.22	27.22	0	0.00
Sandstone 50k	371.76	243.25	128.51	34.56	27.66	0	27.66	215.59	156.17	42.00
Sand and Gravel 50k	246.53	106.58	139.95	56.76	11.3	0.93	12.23	94.35	152.18	61.73
Peat 50K	273.35	154.92	118.43	43.25	88.65	1.21	89.86	65.06	208.29	76.20
Metasedimentary 50k	51.78	39.49	12.29	23.73	19.09	0	19.09	20.04	31.74	61.29
Limestone 50k	245.67	153.06	92.61	37.70	6.24	0	6.24	146.82	98.85	40.24
Limestone 50 K buffer	3.14	0.65	2.49	79.30	0	0	0	0.65	2.49	79.29
Igneous and Metaigneous Rock 50k	599.03	418.12	180.19	30.08	59.04	5.12	64.16	353.96	245.07	40.91
Dolomite 50k	1.3	0.48	0.82	63.08	0	0	0	0.48	0.82	63.07
Conglomerate 50K	83.25	55.46	27.79	33.38	8.55	0	8.55	46.91	39.93	47.96
Coal and Lignite 50k	5.88	0.66	5.22	88.77	0	0	0	0.66	5.22	88.77
Clay 50k	84.99	42.6	42.39	49.87	0	1.74	1.74	40.86	44.13	51.92
Total	1993.9							1012.6		

\*\* Silica Sand 50k resource quantities is unaffected by the actions in this table due to its spatial location within Mid Ulster District



## 6.0 Result of Aggregate Resource Mapping

- 6.1 The results of this exercise show a high percentage reduction on the availability of the resource listed as Sand and Gravel in the tables. This is largely down to the extent of the proposed area of constraint on mineral development as demonstrated in Table 1 as having a 26% percentage reduction before the impact of the proposed designation and in Table 4 having a 67% percentage reduction afterwards.
- 6.2 On the face of it this would suggest that the ACMD and SCA are too severe and that its impact would potentially stifle the aggregate industry of the district. However, Minerals Statements collated by the Department for Infrastructure in 2011 (Table 5) and consultation with operators in the District (Table 6) have suggested that Mid Ulster has more than sufficient resource to cover the estimated 18.4million tonne requirement with remaining reserves of 43million tonne.

Table 6 - 2015/2016 MINERAL STATEMENTS

	2015 (tonnes)	2016	AVERAGE	Over Plan Period (2015 – 2030) *
Northern Ireland Sand and Gravel Production	2.48 million	2.35 million	2.415 million	36.225 million tonnes
Northern Ireland Hard Rock Production	2.6 million	4.2 million	3.35 million	50.25 million tonnes
Mid Ulster Sand and Gravel Production	1.13 million	1.32 million	1.225 million	18.4 million tonnes
Mid Ulster Hard Rock Production	296, 182	816, 992	556,587	8.3 million tonnes
% of NI production hard rock	12%	19%	16%	8 million tonnes
% of NI production sand and gravel	45%	56%	51%	18.4 million tonnes

\* The calculation for tonnage required **Over the Plan Period** is a simple pro rata calculation / extrapolation based on figures contained within the Mineral Statements.

- 6.3 This table shows the information contained within the Minerals Statements collated by the Department for Infrastructure, regarding sand and gravel and hard rock production in Northern Ireland and in Mid Ulster. These are the first Mineral Statements taken by the Department since 2011 and they can be used to gauge the average levels of production in Mid Ulster and in Northern Ireland over these two years. This can be compared to the response we received from some of the industry members to our consultation at the time of our POP, in

order to get clearer evidence of the adequacy or otherwise of the existing mineral reserves in the district. It should also be noted that the sand and gravel figures do not include sand extracted from Lough Neagh.

- 6.4 The calculations in Table 6 show that if Mid Ulster is to continue to contribute to the regional minerals industry (specifically with relation to Sand and Gravel and Hard Rock) then over the Plan Period, we would need to produce around 18.4 million tonnes of sand and gravel and 8.3 million tonnes of hard rock.
- 6.5 The responses to our consultation with the existing quarry operators are explained below and show that there are approximately remaining reserves of 43 million tonnes of sand and gravel (28.5 million tonnes of these reserves are held by one operator), along with approximately 4.75 million tonnes of hard rock reserves. Therefore, based on these figures and the minerals statement returns received from the industry it could be argued that we have adequate supplies of sand and gravel but we may have inadequate supplies of hard rock. Of course the minerals statements are not a comprehensive return and indeed we did not receive a 100% response to all of the consultations issued.

#### KEY FACTS – MINERALS INDUSTRY CONSULTATION

##### Sand and Gravel

Replies – 14 (Quarry Sites)

Yearly extraction rate – 2.279 million tonnes

Remaining Reserves – 43 Million tonnes

##### Hard Rock

Replies – 4 (Quarry Sites)

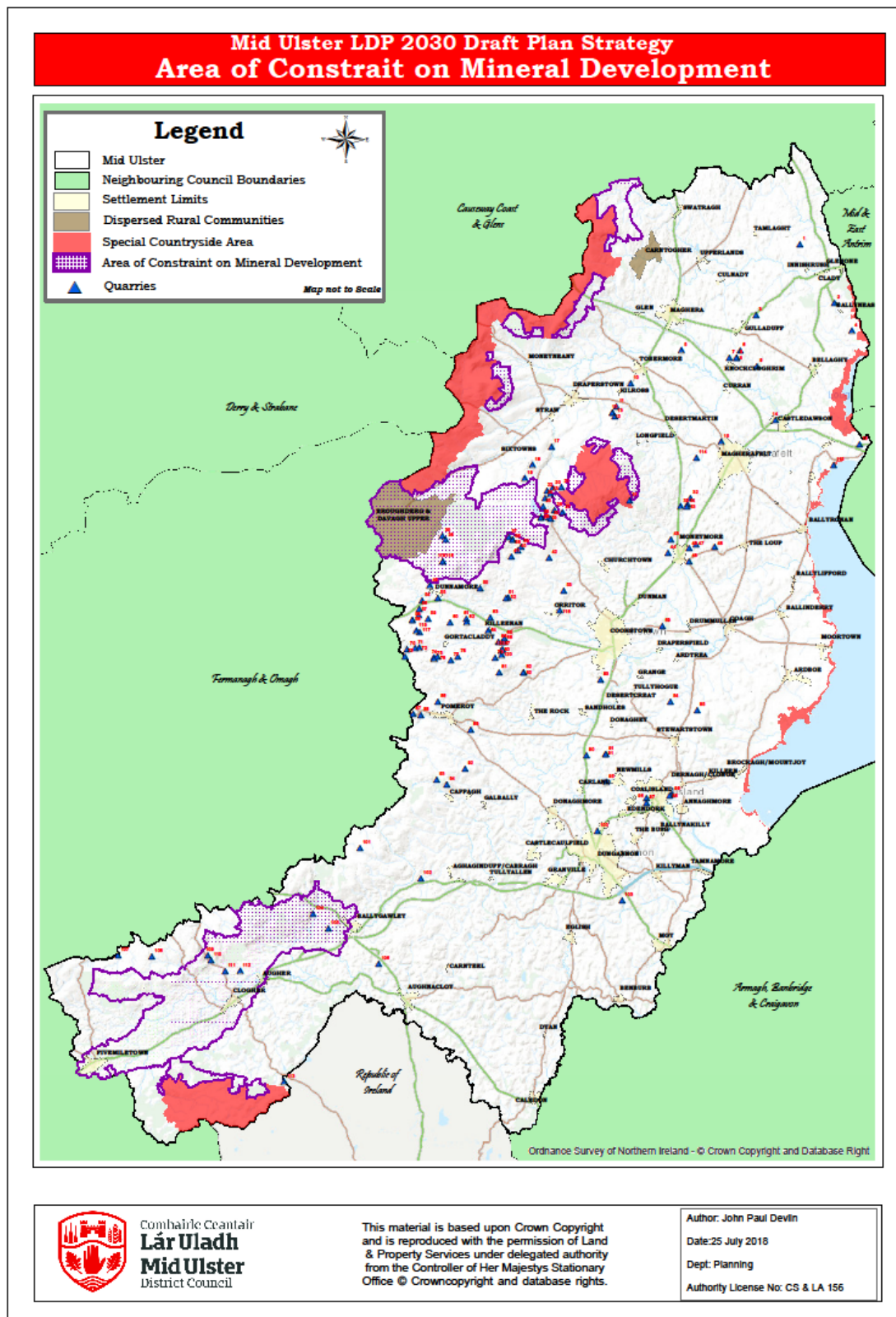
Yearly extraction rate – 430,000 tonnes

Remaining Reserves - 4.75 million tonnes

#### **7.0 Conclusion**

- 7.1 The aggregate mapping shows that our ACMD and SCA designations do not remove all aggregate resources from potential operators. This combined with the feedback from operators at the time of our POP consultation and the picture painted by the Minerals Statements show that mid ulster is an important producer of aggregate. We have sought to remove the larger concentrations of quarries from the ACMD designation and as a result a balanced approach is proposed to protection of our environment. The review of the plan is an important to the ACMD designation allowing us to establish the reserves available at that 5 year interval and providing the opportunity to review the designation if necessary.

## Appendix 1: Mid Ulster Proposed Area of Constraint on Mineral Development and Proposed Special Countryside Area



## Appendix 2: ACMD Identification

