THE ENVIRONMENT PARTNERSHIP

The Briefing
Greening Greater Manchester

TEP Briefing Note: October 2021

What Would a 10% Net Gain Look Like for Greater Manchester?

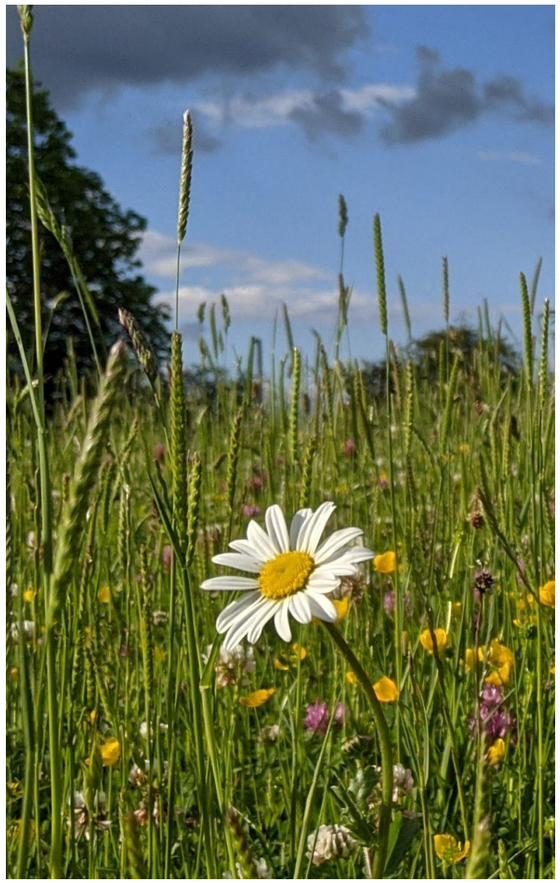
Britain is one of the most nature-depleted countries in the world. Greater Manchester has been urbanised and industrialised for two hundred years, so a lot of work is needed to help nature recover.

In our last **briefing note** we shared our research showing that Greater Manchester has 766,000 Biodiversity Units.

In this briefing note we look at the impact of development and how a 10% uplift in biodiversity might be achieved for the City Region.

A 10% uplift in biodiversity means an additional 76,605 biodiversity units would need to be created. Using the Defra Metric 2.0, we speculated how this might be achieved. Whichever way you look at it, the challenge is huge!

Development and Biodiversity Net Gain



Greater Manchester's development plans have been regularly in the news. All ten local authorities were producing a combined spatial framework (GMSF), until Stockport decided to chart their own path. The remaining nine authorities are combining their efforts into **Places for Everyone**, but even so, Stockport will need to make decisions on strategic housing land allocation.

Research by TEP predicts the potential biodiversity impact of the former GMSF at a high level, and forecasts the likely requirements in Biodiversity Units (BU's) that would be required to meet 10% net gain in each Local Authority area as a consequence of development. Our research also shows how the Green Belt might come to nature's rescue using biodiversity net gain funding.

Britain is one of the most nature-depleted countries in the world. Greater Manchester has been urbanised and industrialised for two hundred years, so a lot of work is needed to help nature recover.

In our last **briefing note** we shared our research which showed that Greater Manchester had an estimated 766,000 BU's. A Defra Metric 2.0 was applied to each land parcel using GIS to estimate BU's. For example, one hectare of woodland had about 20 BU's, whereas one hectare of lawn had only 2 BU's.

Our research also provided facts and figures about the number of BU's in each local authority.

In this briefing note we look at three issues:

1. **What would a 10% increase in Greater Manchester's biodiversity mean in terms of changing the use of land?**
2. **What is the impact of GMSF development, and how much land should be allocated for habitat improvements to ensure a 10% net gain from development?**
3. **How biodiverse is Greater Manchester's Green Belt, and what contribution can it make to enhancing biodiversity?**

What Would a 10% Net Gain Look Like for Greater Manchester?

Planting over 10,000 hectares of scrub, the same size as Tameside Borough

Enriching over 23,000 hectares of poor quality grassland through management, approximately the size of Rochdale, or half of all the grasslands in the city region

Digging 9000 hectares of ponds and lakes, which would just fit inside Tameside Borough

Establishing green roofs on all the city-region's buildings!

Planting over 10,000 hectares of woodland into existing species-poor grassland, approximately the size of Bolton Borough

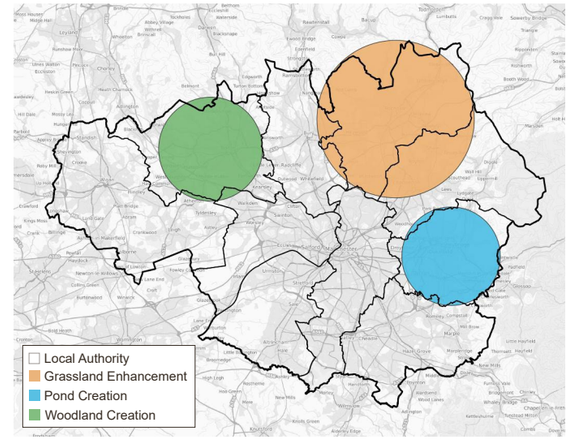
Planting 4.5 million street trees

A 10% uplift in biodiversity means an additional 76,605 biodiversity units need to be created.

Using the Defra Metric 2.0, we speculated how this might be achieved. Whichever way you look at it, the challenge is huge! Figure 1 illustrates some of the areas required for this uplift.

But a mix and match approach could work, working with each landowner to devise a combination of habitat creation and enhancement approaches suitable for their land.

Figure 1: Illustrative areas required to achieve uplift of 76,600BU's



Biodiversity Gain Through Development

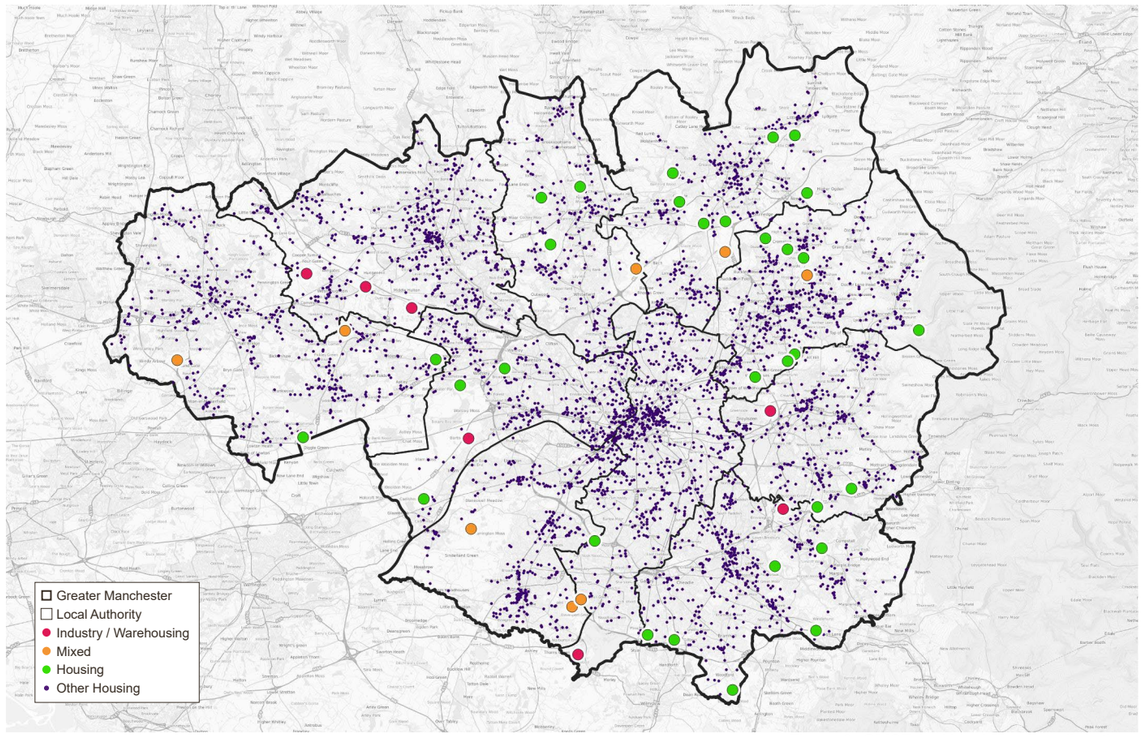


Figure 2: GMSF and local housing allocations

The 10% net gain target will soon be mandatory for most built development. What might that mean for potential development sites in Greater Manchester? We looked at two broad sources of data here; the draft GMSF 2020 allocations and the housing site allocations of each Local Authority. These sites are shown on **www.mappinggm.org.uk**.

The GMSF allocations include housing, industrial and mixed developments, whereas the local allocations we studied related exclusively to housing. We could therefore not consider local employment allocations, but given that many of these are on previously developed land, they may not contain many biodiversity units. For the purposes of our research and to enable the study to cover GM as a whole, we included the original GMSF allocations in Stockport, prior to its decision to pursue its own development strategy.

Collectively the GMSF and local allocations cover approximately 8,200 hectares of land (figure 2), although we must quickly point out that not all of this will be built over; much will remain green in some form or other, whether that be parks, greenspaces, gardens or just undeveloped areas within the allocated site.

The current biodiversity value of all these development sites is estimated as 39,216 BU's. Table 1 shows the current baseline units of the allocated sites in each Local Authority. It may be of comfort to environmentalists that these potential development sites have a lower per-hectare biodiversity value (4.76/ha) than the Greater Manchester average for unbuilt land (7.7/ha) so it appears that there is a general pattern of steering development towards brownfield sites and land of lower environmental value.

"To deliver 10% net gain from development, Greater Manchester's local authorities will need to plan for creation of 9,180 BU's; 5,258 units arising from on-site losses and 3,922 units to add 10% net gain."

Table 1: Total BU's for GMSF and Housing Allocations in Each Local Authority

District	Total Baseline Biodiversity Units in GMSF and other Housing Allocations
Bolton	2,370
Bury	5,746
Manchester	2,857
Oldham	3,225
Rochdale	4,130
Salford	2,427
Stockport*	1,786
Tameside	2,245
Trafford	8,695
Wigan	5,736
Total	**39,216**

* Includes the GMSF allocations that Stockport Council are not pursuing

Some of this can be achieved by reducing on-site losses through good design, but inevitably some will require the allocation of land for biodiversity provision to offset losses and deliver net gain.

Delivering Net Gain Within Development Boundaries

Some biodiversity can be retained, enhanced or created within development. In TEP's experience, this varies according to the type and intensity of development and whether the site is urbanised or greenfield.

TEP has assessed scores of development schemes where we have provided ecological advice. The proportions of existing BUs that can typically be retained, restored or created within a development are shown on Table 2 below.

If we apply these figures to Greater Manchester's development allocations, we can estimate how many BU's can be delivered within development sites and therefore, how much shortfall there is likely to be from the targeted 10% uplift (Table 3).

Table 2: Average Proportion of BUs That Can Be Retained or Created Within a Development Site

Type of Development	Percentage of biodiversity units that can typically be retained or created on site
Housing	90%
Mixed	82.5%
Employment and Industrial	75%

Table 3: Effect of a 10% Net Gain Policy on Greater Manchester's Development Allocations

District	Baseline Biodiversity Units on GMSF and local housing allocation sites	Targeted 10% uplift	Estimated on-site delivery of BUs	Shortfall from 10% BNG target
Bolton	2,370	2,607	2,017	590
Bury	5,746	6,321	4,972	1,349
Manchester	2,857	3,143	2,541	602
Oldham	3,225	3,548	2,837	711
Rochdale	4,130	4,543	3,559	984
Salford	2,427	2,670	2,126	544
Stockport	1,786	1,965	1,583	382
Tameside	2,245	2,470	1,980	490
Trafford	8,695	9,565	7,235	2,330
Wigan	5,736	6,310	5,108	1,202
Total	**39,216**	**43,138**	**33,958**	**9,180**

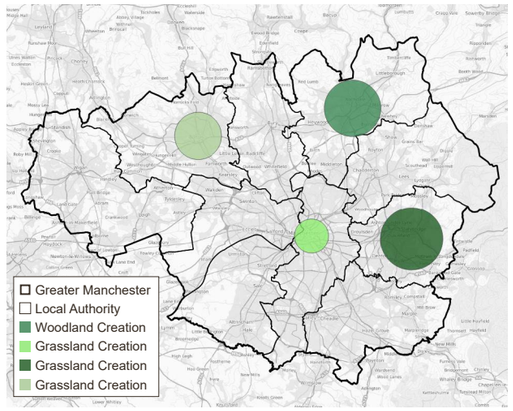


Figure 3: Intervention scenarios required to deliver 9,100BUs to offset impacts of proposed development

Planners will need to think about how they will allocate land to deliver an approximate additional 9,180 Biodiversity Units to secure the development proposed in GMSF. Figure 3 illustrates the scale of the challenge. Perhaps some of the shortfall can be made up through more intensive ecological design within developments, focussing on high-value habitats. But it is inevitable that off-site habitat banks will be needed.

Based on Table 3 and a 10% net gain target, GM-wide habitat banks of up to 10,000 units will be needed. It is likely that each authority will want to allocate, or at least prioritise, their own habitat banks. Hopefully there will be a city-regional concensus that some biodiversity credits can travel across borders to help restore nature in strategically important areas, although current GM guidance disincentivises offsetting in other Local Authorities.

Given the relatively low land values on many of the GMSF sites, market forces will be at work, and it is in the interests of both developers and Local Authorities for the transfer of biodiversity credits from developments to habitat banks to be as frictionless as possible. There is a challenge for Local Authorities and landowners to identify habitat creation and enhancement sites within their land portfolio and to provide evidence that their sites should be prioritised in locally-adopted biodiversity policy. Such evidence will need to consider:

- Is the land available for BNG management for 30 years?
- Is the land in a nature recovery network or similar area prioritised for biodiversity and green infrastructure?
- Is the existing site capable of supporting the proposed habitat creation or enhancements (e.g. is the soil profile suitable?)

Private developers and landowners will look for low-cost partnerships which offer the legal certainty around validation of BNG. Local Authorities need not fear such partnerships and there is merit in developing a Greater Manchester accreditation scheme which prioritises BNG schemes where ecological restoration is important, for example Local Nature Recovery Network Areas.

Development-related BNG is happening now and Greater Manchester has an opportunity to establish up-front local habitat banks, to establish a secure financial investment vehicle, and to make the process of transferring developer contributions as frictionless as possible.

Beyond Development

Delivering Net Gain Through Land Management

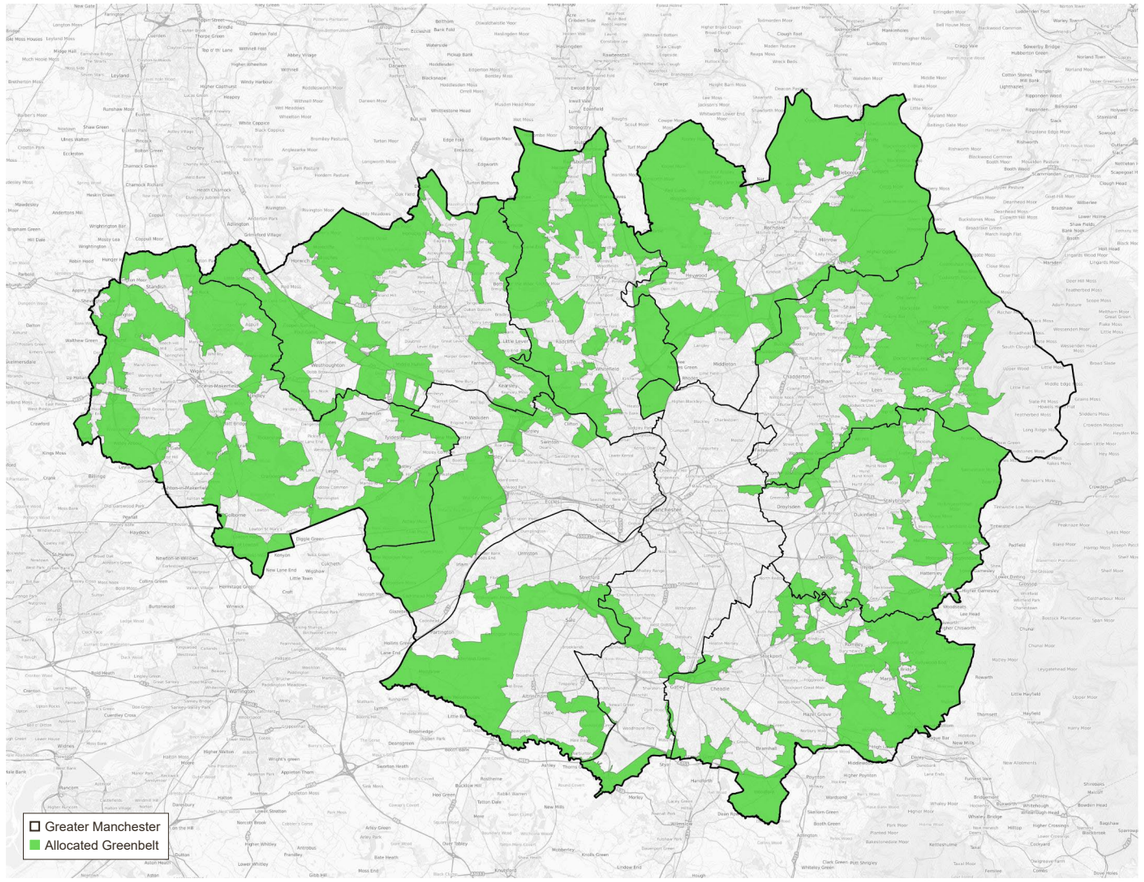


Figure 4: Allocated Greenbelt in GMCA

Given that proposed development in Greater Manchester will lead to a deficit of biodiversity units of at least 9100 BU's; we looked at other places where biodiversity units could be increased.

A role for Green Belt?

Greater Manchester's Green Belt (figure 4) currently has 457,000 BU's, 60% of the city-region's total biodiversity (Table 4). As land which is largely protected from development, it presents an opportunity for habitat creation and enhancements.

Table 5 takes a granular look at land uses in the Green Belt and how many BU's are sustained. Table 6 gives a breakdown per Local Authority.

Table 4: Biodiversity Units in Greater Manchester's Green Belt

Allocation	Area (ha)	Proportion	Biodiversity Units	Proportion
Greenbelt	59,534	45%	457,000	60%
Non-Greenbelt	72,411	55%	309,050	40%
Total	**131,944**	**100%**	**766,050**	**100%**

Table 5: Greater Manchester's Greenbelt: Land uses and Biodiversity Units

Habitat Type	Area in Greenbelt (ha)	Baseline Biodiversity Units per ha	Baseline Biodiversity Units
Grassland	31,853	7.43	236,816
Woodland	6,608	12.76	84,281
Cropland	9,870	2.21	21,791
Reservoirs, Lakes and Ponds	1,483	18.05	26,766
Wetlands and Reedbeds	218	26.18	5,704
Heathland and Scrub	3,520	20.61	72,558
Amenity Grassland	591	5.47	3,233
Gardens	1,241	2.00	2,482
Other	441	6.25	2,757
Allotments and Orchards	59	10.38	613
Built Areas	3,649	0.00	0
Total	**59,534**	**7.68**	**457,000**

Table 6: Biodiversity Units in each Local Authority's Green Belt

District	Area in Greenbelt (ha)	Biodiversity Units in Greenbelt	Biodiversity Units per ha
Bolton	7,226	54,398	7.53
Bury	5,922	43,389	7.33
Manchester	1,276	9,810	7.69
Oldham	6,253	49,463	7.91
Rochdale	9,927	93,476	9.42
Salford	3,372	19,529	5.79
Stockport	5,856	38,938	6.65
Tameside	5,072	54,499	10.75
Trafford	3,988	24,763	6.21
Wigan	10,642	68,736	6.46
Total	**59,534**	**457,000**	**7.68**

Compensatory Improvement Associated with Green Belt Release

NPPF paragraph 142 requires local authorities which release green belt for development to plan for "compensatory improvements to the environmental quality and accessibility" of retained green belt.

Where Places for Everyone requires Green Belt release, perhaps additional funds (over and above the mandatory 10% BNG requirement) might be generated from land value uplifts?

Through the identification of existing habitats within the Green Belt which are suitable for enhancement, it was possible to calculate the number of BU's which could be delivered (table 7). Approximately 30,000BU's could be delivered through enhancements to Green Belt habitats, which would compensate for the shortfall of 9,100BU's created through development. Although this does not account for the habitats in the Green Belt which will be removed as part of development, the analysis demonstrates that there is great potential in the Green Belt for habitat banking.

Table 7: Potential Units Delivered Through Enhancement of Green Belt Habitats.

Habitat Type	Baseline Units	Post-Enhancement Units	Units Delivered
Grassland	89,702	115,986	26,284
Woodland	8,736	10,498	1,762
Reservoirs, Lakes and Ponds	3,887	5,318	1,431
Heathland and Scrub	2,660	3,470	810
Wetland and Reedbeds	1,082	1,207	125
Allotments and Orchards	315	457	142
Other	633	819	186
Total	**107,016**	**137,755**	**30,739**

Green Belt as Green Infrastructure

Most Green Belt land is used for agriculture, equestrianism and recreation. What management scenarios might generate significant uplift in BU's?

Referring back to the beginning of this bulletin, it is clear that if Greater Manchester is to see an overall 10% uplift in biodiversity, at least 10,000 hectares of land (equivalent to 12,500 football pitches) will need to be subject to tree-planting, wetland creation or radical grassland enrichment.

A mix of solutions is needed, in parks, countryside and in the urban area.

Any strategy to enhance Greater Manchester's biodiversity needs, above all, to improve the value of grassland, whether through enhancing its condition, or by diversifying it through creation of new woodlands, scrub and wetlands. Creation of heathland and high-quality grassland can give significant enhancement, but is only technically feasible on nutrient-poor soils, not common in the city-region.

Gardens and cropped land have other primary purposes, but given their extent, marginal improvements could generate good numbers of BU's.

Built areas have no score under the Defra Metric, but enhancements can be achieved through "grey to green" measures, such as creation of swales, SuDS-enabled tree pits, green roofs and walls.

Enhancement of existing woodland could also generate significant BU's.

If the City Region is also to achieve its ambition of carbon neutrality by 2038, a strong focus should be placed on habitats that sequester carbon in vegetation and soils i.e. woodlands, reedbeds and species-rich meadows. Nature-based solutions in urban areas are also important because they directly replace sealed surfaces with vegetation and soil-forming materials, reducing albedo, surface temperature and increasing absorption of carbon dioxide and particulates.

Radical action is needed; many authorities have declared a climate emergency and are considering declaring a biodiversity emergency. This ambition will touch on every sector; recreation, farming and development.

To Summarise

The Environment Bill presents the opportunity to improve biodiversity through the introduction of measurable targets for developments. However it also presents challenges for the planning system to allocate significant areas of land required to ensure mandatory gain from development.

Beyond the development arena, an aspiration to uplift all of Greater Manchester's biodiversity by 10% would require substantial and sustained intervention over many thousands of hectares of land.

This study shows that it is possible to assess biodiversity net gain on a landscape scale through GIS, and this can be used as a decision-making tool to inform strategic planning.

Available Seminars

- **Biodiversity Net Gain and Offsetting Metrics**
- **Ecosystem Services Opportunity Mapping**
- **Natural Capital**

Get in Touch

To find out more about the study, or how the methodology could be applied to your study area, please get in touch to arrange a free consultation.

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