



CGO Ecology Ltd 27a Ridgefield Gardens Christchurch Dorset BH23 4QG UK

## **Biodiversity Net Gain for proposed new prison, bowling club, and boiler house on land adjacent to HMP Garth and HMP Wymott, Leyland**

CGO Ecology Ltd  
Christchurch

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**Author:**

Dr Chris Gleed-Owen MCIEEM, Director & Principal Ecologist

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**For client:**

Mace Ltd  
155 Moorgate  
London  
EC2M 6XB

(+44) 01202 798126  
enquiries@cgoecology.com  
www.cgoecology.com

*Registered Company in England and Wales, number 6532052  
Registered office: Suite 8 Bourne Gate, 25 Bourne Valley Road, Poole, Dorset, BH12 1DY, UK*

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Author:	Dr Chris Gleed-Owen BSc (Hons) PhD MCIEEM	
Checked by:	Rebecca Perl BA MA	
Approved by:	Dr Chris Gleed-Owen BSc (Hons) PhD MCIEEM	

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1	07/11/2021	n/a
2	08/11/2021	Correction of minor error/typo.

## **Non-technical summary**

### Introduction

CGO Ecology Ltd (CGO) was instructed by Mace Ltd, on behalf of the Ministry of Justice (MoJ), to propose Biodiversity Net Gain (BNG) provisions at HMPs Garth and Wymott, Leyland, Lancashire. The MoJ proposes a development as part of its New Prisons Programme on land centred on (SD 502 205). The Local Planning Authority (LPA) is Chorley Council. It is MoJ policy to achieve at least 10% BNG in all its developments.

### Methodology

Biodiversity Metric 2.0 was completed by Dr Chris Gleed-Owen MCIEEM of CGO in June 2021 (prior to the release of Metric 3.0) and submitted with an Outline Planning Application. This was the culmination of an iterative process beginning in February 2021, involving close liaison between CGO, Mace, and Pick Everard's design team. Baseline habitat data were extracted from a Phase 1 survey by Ramboll in 2020, redrawn by CGO. Post-development habitat creation and enhancement figures were provided by Pick Everard. UKHab classifications and conditions were translated from their Phase 1 equivalents with the aid of Natural England's Higher Level Stewardship (HLS) Farm Environment Plan (FEP) manual.

### Results

The proposed scheme will provide 20.08% net gain in habitat units, and 11.25% net gain in hedgerow units. There are no running waterways on site.

The main baseline habitat loss will be 10.84ha of UKHab classification 'modified grassland' in 'poor' condition, translated from Phase 1 habitat type 'improved grassland' following the HLS FEP grassland guidance. Also lost will be 2.50ha of plantation woodland, 2.40ha of amenity grassland, and small areas of seminatural woodland, a pond, species-poor hedgerow, and wet and dry ditch. Most of the existing woodland belt surrounding the two existing prisons will be retained.

Habitat creation will be primarily within the new prison, dictated by design and security considerations. Native planting and seed mixes will be used as far as possible. Areas of native broadleaved woodland will be planted at the northeast perimeter of the new prison and the southwest enhancement area (1.51ha) which will significantly increase woodland connectivity around the whole site. Together with 0.93km of new hedgerow to replace 0.42km lost, this presents a significant gain in habitat connectivity. Six new ponds will be created, four to the south and two to the west of the site, representing a significant expansion of wetland habitat connectivity.

Habitat enhancement will be conducted on 6.78ha of improved grassland, which will be cut hard, scarified, and seeded with a biodiverse, native, location-appropriate mix to achieve 'other neutral grassland'.

### Conclusions and recommendations

Both the area and linear habitat elements of Biodiversity Metric 2.0 have been completed, and the proposed new prison will achieve over 10% BNG for both. There is no loss of 'very high distinctiveness' habitat, 0.05ha loss of high-distinctiveness, 2.41ha loss of medium, and 14.96ha of low-distinctiveness habitat. Habitat trading rules are 'acceptable'. The BNG enhancements must be provided within one year of commencement of the development.

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A Preliminary Ecological Appraisal (PEA) conducted by Ramboll (Molesworth, 2020). CGO conducted a series of phase 2 species in 2021.

## 2. Methodology

Biodiversity Metric 2.0 was completed by Dr Chris Gleed-Owen MCIEEM of CGO in June 2021 and submitted with an Outline Planning Application. This was the culmination of an iterative process beginning in February 2021, involving close liaison between CGO, Mace, and the Pick Everard design team.

Baseline habitat data were extracted from the Ramboll Phase 1 survey (Molesworth, 2020), redrawn by CGO. Post-development habitat creation and enhancement figures were provided by Pick Everard. UKHab classifications and conditions were translated from their Phase 1 equivalents with the aid of Natural England's (2010) Higher Level Stewardship (HLS) Farm Environment Plan (FEP) manual.

The author Dr Chris Gleed-Owen BSc (hons) PhD MCIEEM is Director & Principal Ecologist of CGO Ecology Ltd, an ecological consultant since 2008 (13 years). Survey licences: CL09 great crested newt (GCN, *Triturus cristatus*), sand lizard (*Lacerta agilis*), smooth snake (*Coronella austriaca*), natterjack toad (*Epidalea calamita*), Roman snail (*Helix pomatia*). Previous mitigation licence-holder for smooth snake and/or sand lizard (6), and badger (*Meles meles*) sett closure (3). Experienced practitioner of Phase 1 habitats, National Vegetation Classification (NVC), flora (FISC level 4 botanist), vertebrates, invertebrates, BNG, EclA/EIA, BREEAM.

Plans and extracted baseline habitat areas and lengths were produced by CGO GIS officer Jack Parker.

## 3. Results

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The main baseline habitat loss will be 10.84ha of UKHab classification 'modified grassland' in 'poor' condition, translated from Phase 1 habitat type 'improved grassland' following the HLS FEP grassland guidance. Also lost will be 2.50ha of plantation woodland, 2.40ha of amenity grassland, and small areas of seminatural woodland, a pond, species-poor hedgerow, and wet and dry ditch. Most of the existing woodland belt surrounding the two existing prisons will be retained.

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Habitat enhancement will be conducted on 6.78ha of improved grassland, which will be cut hard, scarified, and seeded with a biodiverse, native, location-appropriate mix to achieve 'other neutral grassland'.

The Metric's habitat trading rules are satisfied.

#### 4. Conclusions and mitigation recommendations

Both the area and linear habitat elements of Biodiversity Metric 2.0 have been completed, and the proposed new prison will achieve over 10% BNG for both. There is no loss of 'very high distinctiveness' habitat, 0.05ha loss of high-distinctiveness, 2.41ha loss of medium, and 14.96ha of low-distinctiveness habitat. Habitat trading rules are 'acceptable'. The BNG enhancements must be provided within one year of commencement of the development.

#### 5. References

Molesworth, J. (2020) *Albatross & Razorbill. Preliminary Ecological Appraisal*. Ramboll, Exeter.

Natural England (2010) *Higher Level Stewardship - Farm Environment Plan (FEP) Manual (3<sup>rd</sup> edition)*. Natural England, York.

#### 6. Appendix (Biodiversity Metric 2.0 extracts)

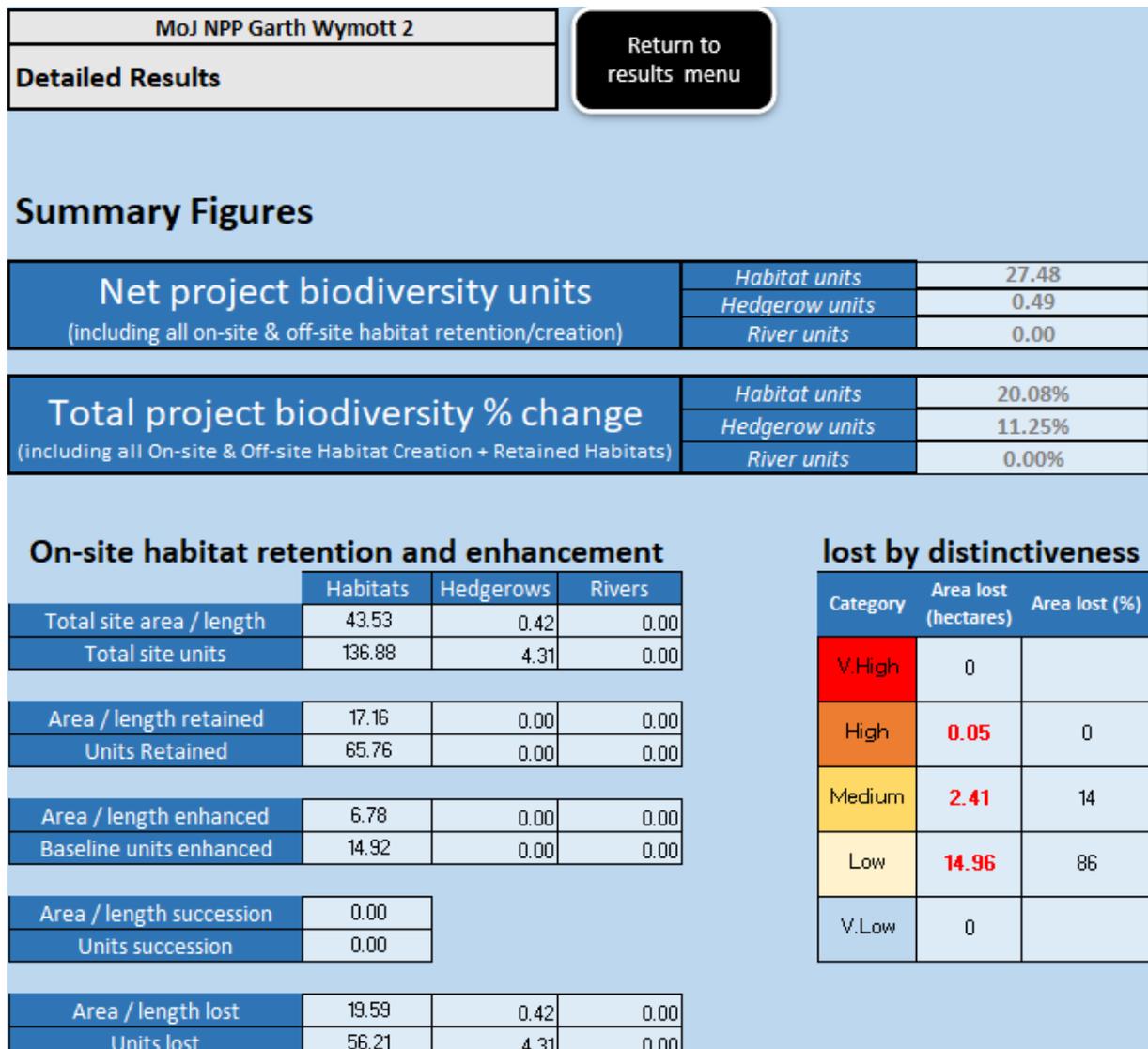


Figure 3 – Headline BNG results extracted from Biodiversity Metric 2.0.



Moj NPP Garth Wymott 2										
A-2 Site Habitat Creation										
Condense / Show Columns					Condense / Show Rows					
Main Menu					Instructions					
Post development/ post intervention habitats										
Proposed habitat	Area (hectares)	Distinctiveness	Score	Condition	Score	Ecological connectivity			Strategic significance	
						Ecological connectivity	Connectivity	Connectivity multiplier	Strategic significance	Strategic significance
Urban - Developed land; sealed surface	0.25	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance
Urban - Amenity grassland	0.29	Low	2	Poor	1	Medium	Moderately connected habitat	1.1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance
Urban - Introduced shrub	0.02	Low	2	Poor	1	Medium	Moderately connected habitat	1.1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance
Urban - Street Tree	0.01	Low	2	Moderate	2	High	Chart Title	1.15	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance
Urban - Developed land; sealed surface	0.19	V.Low	0	N/A - Other	0	N/A	Assessment not appropriate	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance
Lakes - Ponds (Non- Priority Habitat)	0.5	High	6	Moderate	2	High	Highly connected habitat	1.15	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance
Woodland and forest - Lowland mixed deciduous woodland	0.61	High	6	Poor	1	High	Highly connected habitat	1.15	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance
Totals										
										18.86

Strategic position multiplier	Temporal multiplier		Difficulty multipliers		Habitat units delivered	Comments	
	Time to target condition/years	Time to target multiplier	Difficulty of creation category	Difficulty of creation multiplier		Assessor comments	Reviewer comments
1	0	1.000	Low	1	0.00	Bowling club. Hardstanding. Took off 0.01ha for street trees.	
1	1	0.965	Low	1	0.62	Bowling club	
1	1	0.965	Low	1	0.04	Bowling club	
1	27	0.382	Low	1	0.02	Bowling club. Added 0.01ha for 10 street trees.	
1	0	1.000	Low	1	0.00	Boiler house. Buildings/hardstanding grouped.	
1	3	0.899	Low	1	6.20	Wider site area for BNG improvements. Target 5 ponds in south fields.	
1	32+	0.320	High	0.33	0.44	Wider site area for BNG improvements. New woodland along west edge of south fields.	
					Total Units	50.25	

Figure 5 – Area-based habitat creation extracted from Biodiversity Metric 2.0.

Moj NPP Garth Wymott 2																
A-3 Site Habitat Enhancement																
Condense / Show Columns					Condense / Show Rows											
Main Menu					Instructions											
Post development/ post intervention habitats																
Baseline ref	Baseline habitats		Change in distinctiveness and condition					Area (hectares)	Distinctiveness							
	Baseline habitat	Proposed habitat (Pre-populated but can be overridden)	Distinctiveness change	Condition change	Score	Condition	Score									
23	Grassland - Modified grassland	Grassland - Other neutral grassland	Low - Medium	Lower Distinctiveness Habitat - Moderate				6.78	Med							
								Total site area	6.78							
Post development/ post intervention habitats																
Change in distinctiveness and condition		Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance			Temporal risk multiplier						
Distinctiveness change	Condition change						Strategic significance	Strategic significance	Strategic position multiplier	Standard time to target condition/year	Habitat enhanced in advance/year	Delay in starting habitat enhancement/year	Standard or adjusted time to target condition	Final time to target condition/year	Final time to target multiplier	Standard difficulty of enhancement
Low - Medium	Lower Distinctiveness Habitat - Good	4.55	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	15	0	0	Standard time to target condition applied	15	0.988	Low

Distinctiveness	Condition	Ecological connectivity	Strategic significance	Temporal multiplier	Difficulty multipliers	Habitat units delivered	Comments	
							Time to target condition/years	Difficulty of enhancement category
Medium	Moderate	High	Area/compensation not in local strategy/ no local strategy	10	Low	48.35	Wider site area for BNG improvements. Existing poor pasture at south end and west end of site, enhanced by seeding.	
						Enhancement total	48.35	

Figure 6 – Area-based habitat enhancement extracted from Biodiversity Metric 2.0.

MoJ NPP Garth Wymott 2													
B-1 Site Hedge Baseline													
Condense / Show Columns				Condense / Show Rows									
Main Menu				Instructions									
Baseline ref	Hedge number	UK Habitats - existing habitats			Habitat distinctiveness		Habitat condition		Ecological connectivity			Strategic significance	
		Hedgerow type	length KM	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier			
1	1	Native Species Rich Hedgerow - Associated with bank or ditch			0.14	High	6	Moderate	2	Medium	Moderately connected habitat	1.1	Area/compensation not in local strategy
2	2	Native Hedgerow - Associated with bank or ditch			0.28	Medium	4	Moderate	2	Medium	Moderately connected habitat	1.1	Area/compensation not in local strategy
Finance				Retention category biodiversity value				Comments					
Strategic significance	Strategic position multiplier	Suggested action to address habitat losses	Ecological baseline Total hedgerow units	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments		Reviewer comments	
Low Strategic Significance	1	Like for like	1.848	0		0	0	0.14	1.848				
Low Strategic Significance	1	Like for like or better	2.464	0		0	0	0.28	2.464				

Figure 7 – Baseline hedgerow extracted from Biodiversity Metric 2.0.

MoJ NPP Garth Wymott 2													
B-2 Site Hedge Creation													
Condense / Show Columns				Condense / Show Rows									
Main Menu				Instructions									
Baseline ref	New hedge number	Proposed habitats			Habitat distinctiveness		Habitat condition		Ecological connectivity			Strategic significance	
		Habitat type	Length km	Distinctiveness	Score	Condition	Score	Ecological connectivity	Connectivity	Connectivity multiplier			
1		Native Species Rich Hedgerow			0.93	Medium	4	Moderate	2	High	Highly connected habitat	1.15	Area/compensation not in local strategy
Multipliers													
Spatial quality			Temporal multiplier		Difficulty of creation multiplier	Hedge units delivered	Comments						
Strategic significance	Strategic significance	Strategic position multiplier	Time to target condition/years	Time to target multiplier			Assessor comments	Reviewer comments					
Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0.837	0.67	4.80	Wider site area BNG improvements. South end of site.						

Figure 8 - Hedgerow creation extracted from Biodiversity Metric 2.0.