Natural England Research Report NERR063

Is the management of Local Wildlife Sites affected by the urban fringe?

www.gov.uk/natural-england

NATURAL ENGLAND

Natural England Research Report NERR063

Is the management of Local Wildlife Sites affected by the urban fringe?

Charles Routh

Published 08 February 2016

ISBN 978-1-78354-289-5

Project details

This report should be cited as:

ROUTH, C. 2016. Is the management of Local Wildlife Sites affected by the urban fringe? *Natural England Research Reports, Number 063*.

Project manager

Charles Routh
Natural England
Mail Hub
Worcester County Hall
Spetchley Road
Worcester
WR5 2NP
charles.routh@naturalengland.org.uk

Acknowledgements

Thanks are due to Oliver Grafton, for his liaison with local wildlife site organisations, and Linda Edwards, for her GIS analysis.

Thanks are also due to the following who supplied the data used in this analysis:

Jackie Ullyett, Bedfordshire and Luton Biodiversity Recording and Monitoring Centre

Sara Carvalho, EcoRecord (Birmingham and the Black Country)

Philip Ricketts, Cambridgeshire & Peterborough Environmental Records Centre

Kieron Huston, Derbyshire Wildlife Trust

Eleanor Knott, Devon Biodiversity Records Centre

Carolyn Steele, Dorset Environmental Records Centre

Linda Moore, Gloucestershire Centre for Environmental Records

Sarah Baker, Greater Lincolnshire Nature Partnership

Wolfgang Ritter, Hampshire Biodiversity Information Centre

Ian Carle, Herts and Middlesex Wildlife Trust

Anne Marston, Isle of Wight Local Records Centre

Ben Deed, Merseyside BioBank

Purgle Linham, Wiltshire and Swindon Biological Records Centre

Contents

1 Summary

1.1 Anecdotal evidence suggests that local wildlife sites are adversely affected by proximity to the urban fringe through a variety of direct and indirect vectors. One of the indirect vectors is thought to be changes in the propensity to manage such sites positively for wildlife, in particular those sites requiring grazing, and especially those in private ownership. However, no evidence exists to demonstrate this.

1.2 The purpose of this study was to ascertain the strength of the relationship between positive conservation management and proximity to the urban fringe, and whether this relationship was stronger for those sites in need of grazing.

1.3 GIS analysis of the relationship between positive management local wildlife sites and proximity to urban areas was undertaken. Local wildlife sites close to urban areas were found to be notably less likely to be positively managed. The clearest demonstration of this was for local wildlife sites in private ownership where grazing management is likely to be the most appropriate form of management. Of these sites, the study found 50% of those in close proximity to urban areas to be in positive management, compared to 68% of those not near urban areas (a difference of 18%). The effect on other sites, where grazing management was not likely to be appropriate, was less pronounced. For these sites in private ownership, those in close proximity to urban areas are 35% likely to be in positive management compared to 46% for those not near urban areas (a difference of 11%).

2 Method

2.1 Local site data covering 13 geographical areas was analysed against the following criteria:

1) Whether the site was in positive conservation management. Specifically was the site recorded as being under positive management under the NI197[1] reporting criteria?
2) Whether the site was on the urban fringe. Specifically, did the site intersect with a 100m buffer around the urban extent GIS[2] layer? A 100m buffer was chosen as it was felt that this was the distance over which the causal mechanisms suggested below would operate. A sensitivity analysis has not been undertaken.
3) Whether the site was a "grassland" site. Specifically did the site include habitats likely to need grazing to be in positive management (hereafter referred to as "grassland sites") ? Those sites which contained priority habitats judged to require grazing were classed as grassland sites. Appendix 1 lists which category habitats were placed.
4) Whether the site was thought to be in private ownership. As part of the project development, it was suggested by data suppliers that land in public (including NGO) ownership was more likely to be in positive management, and more likely to occur on the urban fringe. We thus identified the most obvious NGO and public sector owned sites using the Rural Land Registry data, and removed these from the assessment.

[1] National Indicator 197: Improved Local Biodiversity – proportion of Local Sites where positive conservation management has been or is being implemented. See **here** for the reporting methodology.

[2] Using the 2001 Communities and Local Government for Urban Areas, Office for National Statistics (ONS) population data.

3 Results

3.1 Initial analysis showed a showed a stronger effect for sites under private ownership (which formed the majority of the sample). For simplicity, only results from this subset of data are presented below.

Table 1 Changes in area of permanent grassland in England since 2005 (RPA)

	Wider countryside		Urban fringe	
	Number in +ve management	**% in +ve management**	**Number in +ve management**	**% in +ve management**
Grassland	2072	68%	355	50%
Non Grassland	3655	46%	703	35%

Background data can be viewed in the associated spreadsheet.

3.2 Thus for both habitat categories, positive management for wildlife was notably less likely when the site was within 100m of an urban area, but stronger for grassland sites.

3.3 Whilst this study does not explicitly show a causal relationship, but rather an association, there are a number of plausible causal mechanisms including:

a) Indirect impacts of people: gate vandalism, stock worrying, dog fouling etc., meaning grazing is less attractive.
b) Average holding size being smaller, meaning that cattle or sheep grazing is less viable as an enterprise, so grazing is less attractive.
c) Increased viability of horse grazing (which is not likely to be classed as positive management).
d) Economic incentive to allow the biodiversity value of the site to decline as a means of reducing development constraints on the site.

3.4 These causal mechanisms would act more strongly on grassland sites, and this fits with the results.

3.5 It is also worth noting that lack of management is perceived to be the biggest threat to Local Wildlife Sites according to a survey of Local Wildlife Site partnership areas[3].

[3] **Rachel Hackett** Secret Spaces: the status of Local Wildlife Sites 2014
http://www.wildlifetrusts.org/localwildlifesites

Plate 1 Local Wildlife Site, showing (in yellow) what appears to be a garden extension into an unmanaged grassland site on the edge of a small town

Other urban effects on local wildlife sites

3.6 This study only looks at impacts that are mediated by land management on local wildlife sites. However, it should be recognised that there are also a number of other ways that local wildlife site biodiversity may be impacted by new development in close proximity. These include:

1) Direct impacts due to greater public use of the site, permitted or otherwise, (disturbance, trampling, eutrophication, fires etc.).
2) Other direct impacts not involving physical access (lighting, noise, cat predation etc.).
3) Severance from the wider countryside, making it harder for priority species on the site to act as part of a larger meta-population, so making the site and its environs less resilient to climate change or localised extinctions.

3.7 Prejudicing any future restoration of stronger ecological linkages between the site concerned and others.

Appendix 1

Table A Habitats classed as “grassland” (in red below)

Habitat	Abbreviation
Blanket bog	BLBOG
Calaminarian grassland	CALAM
Coastal & floodplain grazing marsh	CFPGM
Coastal sand dunes	CSDUN
Coastal vegetated shingle	CVSHI
Deciduous woodland	DWOOD
Limestone pavements	LPAVE
Lowland calcareous grassland	LCGRA
Lowland dry acid grassland	LDAGR
Lowland fens	LFENS
Lowland heathland	LHEAT
Lowland meadows	LMEAD
Lowland raised bog	LRBOG
Maritime cliff & slope	MCSLP
Mountain heath & willow scrub	MHWSC
Mudflats	MUDFL
Purple moor grass & rush pastures	PMGRP
Reedbeds	RBEDS
Saline lagoons	SLAGO
Coastal saltmarsh	SALTM
Traditional orchards	TORCH
Upland calcareous grassland	UCGRA
Upland hay meadows	UHMEA
Upland heathland	UHEAT
Upland flushes, fens & swamps	UFFSW

Natural England works for people, places and nature to conserve and enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas.

www.gov.uk/natural-england