Response to Policy BG/GI: Green infrastructure from John Meed

I welcome the focus of Policy BG/GI: Green infrastructure in the local plan, and support the objectives and the proposals to demonstrate that green infrastructure has been planned. I do though have some suggestions for strengthening two of the 'list of strategic green infrastructure initiatives' outlined in Policy BG/GI, the *Biodiversity and Green Spaces Topic Paper* and the *Greater Cambridge Green Infrastructure Opportunity Mapping*.

In addition, I think it essential that the revised objectives for these initiatives form part of the Local Plan document itself. If they remain present only in the *Topic Paper* and the *Green Infrastructure Opportunity Mapping* they are likely to have minimal impact on development proposals.

Initiative 3: Gog Magog Hills and chalkland fringe

Of the specific areas I know Area 3: Gog Magog Hills and chalkland fringe best. I support all three of the proposed objectives. As the local plan progresses, it would be good to strengthen this initiative with concrete proposals about how objectives can be achieved in practice. As just one example, I had some years ago submitted an outline proposal for establishing a ridge walk to join Nine Wells to Magog Down via White Hill and Clark's Hill. As well as providing increased public access, projects like this would offer scope for habitat creation such as new hedgerows, margins and chalk grassland.

While I welcome the priority habitats identified in Initiative 3, there is also a vital need to improve the biodiversity of arable land across an important area of chalk farmland. My own study highlights that arable land in the area can support good populations of threatened red-listed species of high conservation concern; a concerted effort to spread such farming practices and habitat management across the area would make a real contribution to the Environment Bill's requirement 'to halt the decline in species abundance by 2030'.

This could be achieved by adding a fourth objective, along the lines of:

- 'Enhance the arable habitats by improving features such as hedgerows, margins and cropping to provide better breeding habitat and winter food for threatened farmland species.'

Similar comments may be relevant to other initiatives.

Initiative 14: Environmentally friendly farming

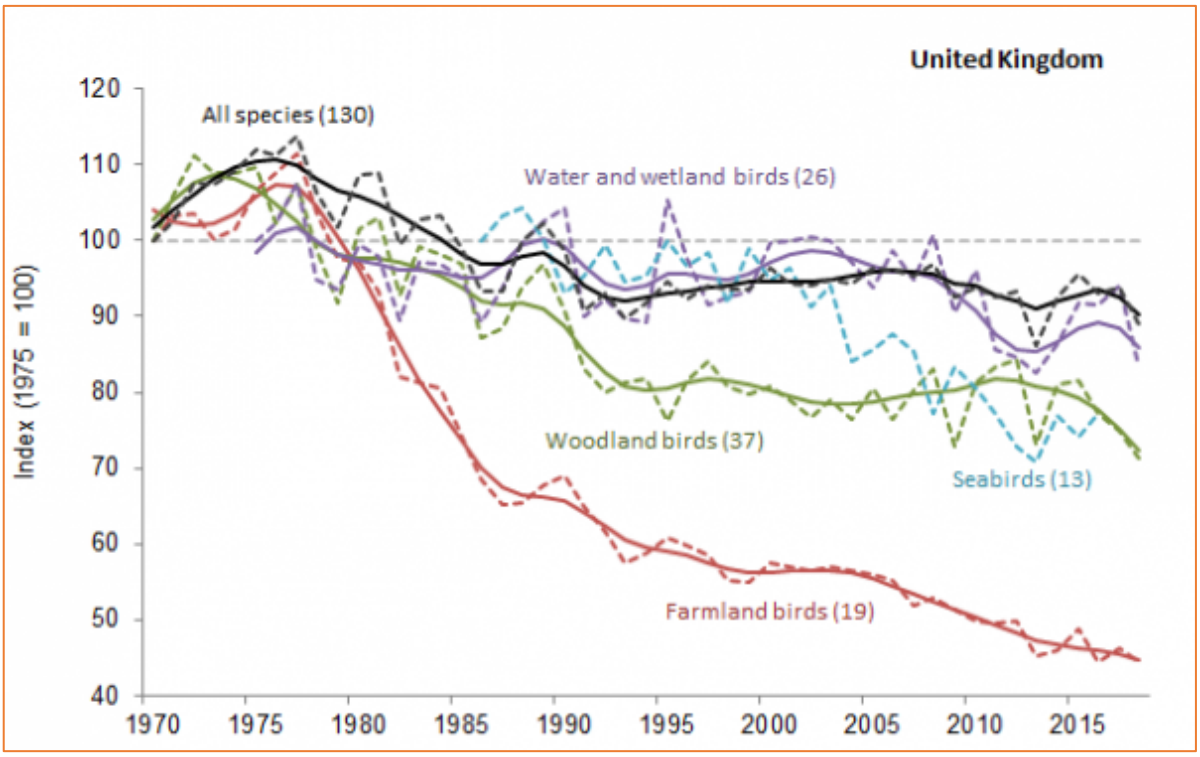
While I also welcome Initiative 14, this initiative is lighter on content than some of the others. It is a single line in the plan itself, and a single objective in the *Biodiversity and Green Spaces Topic Paper.* There is more in the *Greater Cambridge Green Infrastructure Opportunity Mapping* which provides a useful summary of the new Environmental Land Management scheme. However, there is relatively little on how the local plan will support this important area beyond 'promoting partnership working and uptake of agri-environment schemes'.

There is a common belief that arable land is less valuable for biodiversity than other habitats, and there is a sense that the local plan shares this belief – it is never cited as a

'priority habitat' in the plan or the supporting documents. Indeed, I could find no use of the word 'arable' in the plan or the *Topic Paper*, and while the word appears a few times in the *Green Infrastructure Opportunity Mapping*, it is often preceded by the word 'former'.

There are four reasons why this is problematic. **Firstly**, most of the rural land of Greater Cambridge is devoted to arable farming, which makes an important contribution to the local economy and to the need for home-produced food (1). Any attempt to seek 'environmental net gains' across the area must focus firmly on the farmed environment.

Secondly, high quality arable land is crucial to the survival of iconic farmland species that are currently at risk. The following graph, based on the government's *Wild Birds Populations Indicator* (2), shows how sharply farmland birds have declined since 1970. The decline in farmland birds indicates deeper problems in our agricultural ecosystems, notably a loss of arable weeds and invertebrates.



Thirdly, red-listed species such as corn bunting and yellow wagtail are increasingly restricted to areas like South Cambridgeshire as their former range to the north and west has contracted. We are at risk of seeing such species become extinct in the UK if their remaining habitats are not protected and enhanced (3).

And **fourthly**, the local plan proposes development on further areas of arable land. My own ten-year study of the fields south of the Biomedical Campus demonstrates that fields covered by the policy S/CBC host good populations on these threatened farmland species.

Taken together, these four reasons make clear that the arable habitat should be given far higher priority in the local plan.

Alison Power (4) discusses the choices faced by arable farmers in terms of ecosystem services and disservices – whether any particular agricultural system provides such services

depends on management. On well-managed arable land, processes within the arable ecosystem can provide a 'range of ecosystem services including pollination, biological pest control, water quantity and quality, soil retention, structure and fertility, genetic diversity, and nutrient cycling', and this is recognised, albeit briefly, by Initiative 14.

Greater Cambridge contains some nationally important examples of environmentally friendly farming in addition to the Wimpole case study, most notably the RSPB's Hope Farm (5), which has demonstrated ways in which a profitable farm can also be beneficial for wildlife, and also CPPF's Coton Countryside Reserve, while just beyond across the county border the GWCT's Grey Partridge Demonstration Project near Royston has had success in increasing populations of this threatened species (6). And other farmers in the area, including the area I study in most depth, have also been able to create conditions in which farmland specialists can thrive.

In contrast Power states that arable farming 'can often be a source of disservices, including loss of biodiversity, agrochemical contamination and sedimentation of waterways, pesticide poisoning of non-target organisms, and emissions of greenhouse gases and pollutants.' There are areas of the local arable environment where destruction of margin habitats, over-use of pesticides and uninspired cropping patterns have made the habitat inhospitable to many of our iconic farmland species.

Extensive research has indicated the measures that can help to improve the health of arable ecosystems. To give just one example, a recent paper (7) drew together results from seven studies of winter wheat spread over 18 years. It underlined the central importance of arable weeds and invertebrates:

> 'There is a strong case to be made that the cropped area of wheat fields can support ecological services if weed cover and diversity is sufficient. Weed seeds are an important food resource for some species of arthropods, birds and small mammals… Seeds are also consumed by invertebrates, most commonly some beetle and ant species which are important dietary items for farmland bird chicks and adults.'

The paper goes on to conclude:

> 'that even in an intensively grown cereal, arable weeds can play an important role in maintaining and restoring invertebrate populations, that 10% weed cover is needed to fulfil the potential and that a successful outcome will be driven by the presence of weed species that support invertebrates that provide ecosystem services.'

So, not only does the local plan need to give higher priority to improving arable habitats, it also needs to give clear indications of how it will achieve this. At present, such indications appear toothless; there is even a point where the *Green Infrastructure Opportunity Mapping* states that 'the local plan cannot require an agricultural unit to be managed in a more environmentally sustainable manner, unless this is specifically related to mitigating the impacts of planned development'. While this may to a certain extent be true, the same could be said of the other priority habitats.

In practice the local plan could do far more and the initiative could be strengthened through additional objectives, along the lines of:

- 'Ensure that publicly owned arable land is managed to high standards to maximise biodiversity and protect threatened farmland species' [Note: 1) this should include County Council-owned land and 2) the *Doubling nature* paper from South Cambridgeshire makes a similar commitment]

- 'Where arable land is released for development, to require habitat improvement on nearby arable land to ensure net gain of arable species populations.'

- 'Encourage and support land owners and managers to improve arable habitats.' [This could be done via a scheme similar to the RSPB's Volunteer and Farmer Alliance (8)]

Furthermore, the 'Potential delivery mechanisms/funding section' in the *Greater Cambridge Green Infrastructure Opportunity Mapping* makes no mention of using BNG funding for this initiative, unlike that in many other initiatives, and a similar bullet point needs adding, along the lines of:

- S106/BNG and contributions for habitat improvement through development in and around Cambridge

I would be happy to contribute suggestions about how such measures might be included in the planning process, in ways that would help ensure that the local plan can indeed 'seek wider environmental net gains'.

John Meed, December 2021

John Meed is a researcher and writer who lives in south Cambridge. He conducts regular surveys on behalf of the British Trust for Ornithology, the Royal Society for the Protection of Birds and the UK Butterfly Monitoring Scheme. For the last ten years he has carried out a detailed ecological survey of one square kilometre of green belt south of Cambridge Biomedical Campus. See http://johnmeed.net/john-meed/nine-wells/.

References:

1 The National Farmers' Union (NFU) report *Delivering for Britain: Food and Farming in the Fens* states that fenland produces more than 7 per cent of the country's agricultural output, worth an estimated £1.23bn, and that the whole fenland food chain employs 80,000 people and generates £3.1bn a year.

2 Defra, 2020. *Wild Bird Populations in the UK, 1970–2019*

3 Stanbury, A, Brown, A, Eaton, M, Aebischer, N, Gillings, S, Hearn, R, Noble, D, Stroud, D, Gregory, R and Powell, Dan (2017). The risk of extinction for birds in Great Britain. *British Birds*. **11,**. 502-517.

4 Power, A G (2010). *Ecosystem services and agriculture: tradeoffs and synergies* Phil. Trans. R. Soc. B3652959–2971

5 RSPB (2020) *Hope Farm Annual Review 2019*

6 Aebischer, N J and Ewald, J A (2012). The grey partridge in the UK: population status, research, policy and prospects. *Animal Biodiversity and Conservation*, **35**(2), 353–362

7 Smith, B M., Aebischer, N J., Ewald, J, Moreby, S, Potter, C, Holland, J M (2020). The Potential of Arable Weeds to Reverse Invertebrate Declines and Associated Ecosystem Services in Cereal Crops. *Frontiers in Sustainable Food Systems*, **3**

8 RSPB (2012) RSPB Volunteer and Farmer Alliance Training Manual