



Green Infrastructure mapping for Central Lincolnshire authorities

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1. Introduction

In early 2019 the GLNP created a Biodiversity Opportunity Map (BOM) for North Lincolnshire Council area as part of their requirements in producing a new Local Plan. The GLNP was approached because of their expertise in GIS mapping. This expertise and experience led Central Lincolnshire authorities to undertake the same BOM exercise with GLNP for their area during the refresh of the Local Plan.

2. Purpose of maps

Central Lincolnshire authorities have a multitude of obligations in producing a new Local Plan. In particular the text within the updated National Planning Policy Framework¹ (NPPF) states that:

“174. To protect and enhance biodiversity and geodiversity, plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

As such all plans produced after the revised NPPF need to include some kind of maps to show current areas of ecological importance (a) and opportunities (b). This paragraph also indicates the need for some kind of monitoring, reporting and even updating of the maps to determine if measurable net gains have been made.

3. Background research

Given rising interest in ecological mapping the GLNP undertook research into the methods and presentation of maps in 2017. There are three key messages from this research:

- All the map methods available for scrutiny are different. While there is some consistency in the kinds of data used (e.g. statutory site boundaries) there is no consistency in how these are used or interpreted.

¹ MHCLG (2019) National Planning Policy Framework



- Most existing maps are not accompanied with a detailed method statement that would allow updates to be made in a consistent fashion.
- The resulting map is primarily dependent on the quality and quantity of data available. Changes to data availability can significantly alter priorities. This includes both mapped GIS data and expert opinion.

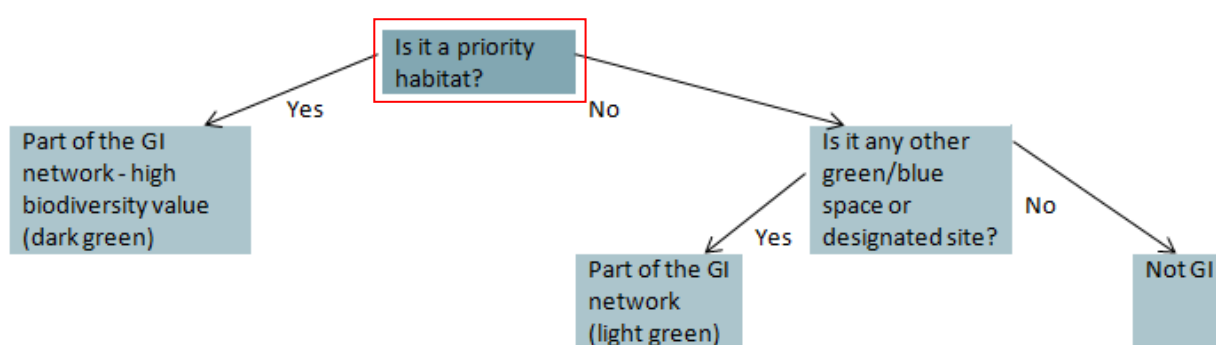
Given the purpose of the maps for Central Lincolnshire it was important that the GLNP document the process in detail in order for the maps to be consistently updated over time and when more data becomes available.

4. How the maps were created

The creation of the maps was a simple process, as shown in Diagram 1 below. The available data on all 'green' sites was compiled and then shown on a map. This represents the current resource with minimal interpretation. The ecological network map and the BOM have interpreted this data for biodiversity purposes, however GI contributes to wider aims and it is not within the scope of the project to determine how this GI functions or contributes to these objectives.

4.1. GIS flow diagram and decision process

Diagram 1 – Flow diagram for the GI map



4.1.1. Confidence in the GIS data

Given that changes in data can significantly alter the maps it is important for the GLNP to describe our confidence in the data:

- Very high confidence – that the maps represent the data provided. I.e. that the method described has been followed correctly.



- High confidence – that the habitat data mapped by GLNP reflects the ecological conditions at the time of mapping. I.e. if the maps show Priority Habitat we are confident it is Priority Habitat.
- High confidence – that the greenspace mapping taken from OS MasterMap is accurate and relatively complete.
- Medium confidence – that the ecological networks represented are the total resource. The data held is from specific surveys and projects, there has been no complete survey of the area. As such it is likely that areas of ecological importance are missing from the maps. However, given surveying of areas of ecological importance over a number of years we do not expect any large or significant areas to have been missed. Expert opinion is particularly important here.
- Low confidence – that the mapped statutory sites reflect the ecological conditions. Any statutory site without habitat data has simply been mapped as ‘greenspace’. Given the designation it is likely to meet Priority Habitat status. It is simply that we do not have the data to confirm this. Expert opinion is particularly helpful here.

4.1.2. Technical GIS data

The production of the maps was via SQL in Mapinfo. The exact SQL code uses the names of our datasets and would therefore not be helpful to replicate here. Instead a generic description of the datasets used is given below for replication purposes.

Dataset	Classification	Notes
GLNP Priority Habitat data	Priority Habitat	Overrides any other classification
GLNP non-Priority Habitat data	Non-Priority Habitat	
SSSI	Non-Priority Habitat	
LWS	Non-Priority Habitat	
Ramsar	Non-Priority Habitat	
SPA	Non-Priority Habitat	
SAC	Non-Priority Habitat	
LNR	Non-Priority Habitat	
LWT reserves	Non-Priority Habitat	
MasterMap	Non-Priority Habitat	‘Natural’ features that the GLNP have not determined to be cultivated land



5. Timeline

Date	Activity
September 2019	GLNP promotes the North Lincolnshire BOM to Partners and discussed the BOM with City of Lincoln Council. Discussions begin around the cost and timeline for production of a Central Lincolnshire BOM using a consistent methodology to the North Lincolnshire BOM
October 2019	Central Lincolnshire confirms it would like to go ahead with a BOM and a GI map and allocates funding
November 2019	Final maps, GIS layers and report on the method supplied by GLNP to Central Lincolnshire authorities

6. Conclusions

Overall the GLNP believe the supplied maps are a good representation of the existing GI resource. The method used can be replicated elsewhere and in the future ensuring consistency. The GLNP commends Central Lincolnshire authorities for taking a proactive approach to the creation of the maps and looks forward to working with them to deliver on them and achieve more for nature.



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