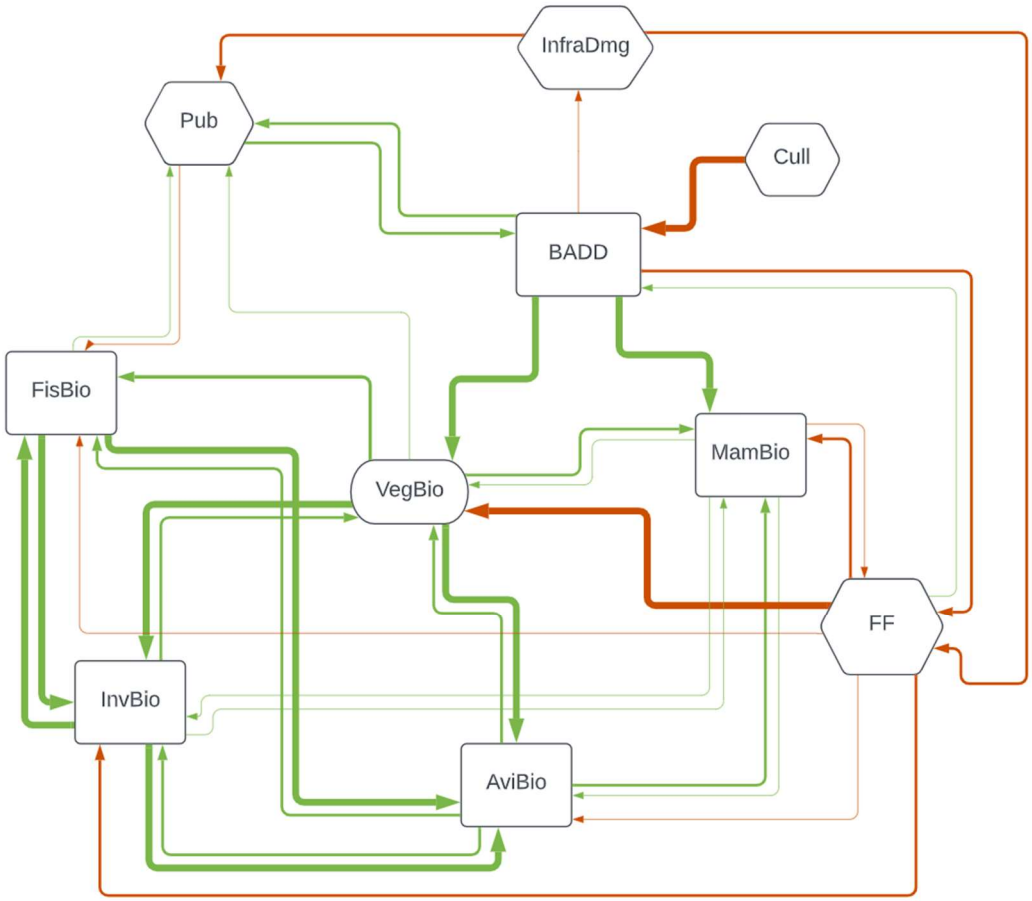

Figure 1. Graphic model of interactions between nodes. The arrow direction represents the node-to-node interactions where the source node is affecting the secondary node. The green arrows represent a positive interaction (when source node increases, the probability of secondary node increasing, increases), while the orange arrows represent a negative interaction (when source node increases, the probability of secondary node decreasing, increases). Arrow thickness represents the strength of interaction, and increases from 1 to 3.

Node name	Node abbreviation	Node type	Description
Infrastructure flooding damage	InfraDmg	Anthropogenic influence	The level of damage to human infrastructure and monetary cost from both flooding and value lost in assets
Public interactions	Pub	Anthropogenic influence	Influence of all public interactions, as well as public opinions on other nodes
Culling	Cull	Anthropogenic influence	Large-scale human hunting of beavers to reduce population size
Beaver abundance/dam density	BADD	Faunal influence	Size of the overall beaver population within the subject area, as well as the numeracy of beaver dams. Dam density is directly correlated to beaver abundance
Fish biodiversity	FisBio	Faunal influence	Level of fish biodiversity and abundance within the subject area
Mammal biodiversity	MamBio	Faunal influence	Level of wild small mammal biodiversity and abundance within the subject area

Farmland functionality	FF	Anthropogenic influence	Area of farmland within the subject area, as well as the intensity of farming
Invertebrate biodiversity	InvBio	Faunal influence	Level of invertebrate biodiversity and abundance within the subject area
Vegetation / Fungi biodiversity	VegBio	Floral influence	The level of vegetation and fungi species biodiversity, as well as land area coverage and deadwood density. This includes all types of non-cultivated vegetation found across the UK.
Avian biodiversity	AviBio	Faunal influence	Level of avian biodiversity and abundance within the subject area

Table 1. Description of model nodes, which corresponds to figure 1.