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Landscape Conservation for Irish Bats



Bat Conservation Ireland

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Landscape Conservation for Bats in Ireland

Summary Report for County Kilkenny



Bat Conservation Ireland

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A JOINT PROJECT WITH BAT CONSERVATION IRELAND AND THE CENTRE FOR IRISH BAT RESEARCH

Introduction

This summary document is intended to be read in conjunction with the main report produced for this project (see Lundy *et al.* 2011). The following summarises the pertinent points for County Kilkenny in relation to areas of greatest bat occurrence and areas where bats may be particularly vulnerable. Analyses were carried out at a 5km resolution using the CORINE landcover, altitudinal, climatic and other datasets. Note that this analysis is based on bat records available from 2000 to 2009 and results may change as further records and more widespread and detailed habitat datasets become available over time. There is only one confirmed record for the Brandt's bat in Ireland (Co. Wicklow) so it is not included in this analysis. Six Irish bat species are widespread across the island. The lesser horseshoe bat, Nathusius' pipistrelle, and whiskered bat, however, are species with the most restricted distributions on the island. Although areas of generally lower bat occurrence may be found along mountain ranges and at altitude this does not mean bats are not found in these locations. Bats may be locally common and may also move across mountain ranges in autumn during migration to swarming sites and in spring, when migrating from hibernacula to summer roosts. Swarming sites or hibernacula may also themselves occur at altitude, in caves or disused mines, but may be hitherto unrecorded.

Results

All except two species are widespread across County Kilkenny. The exceptions are the rarely recorded Nathusius' pipistrelle and the Annex II listed species lesser horseshoe bat. The lesser horseshoe bat is only found in counties along the western seaboard so is absent from Kilkenny. While the Nathusius' pipistrelle has not yet been recorded in Kilkenny, 3% of the county is included in the core range for the species, which suggests that the species may occur there, at least on occasion. A very high percentage (89-100%) of the county is included in core ranges of the brown long-eared bat, common pipistrelle, soprano pipistrelle, Leisler's bat, whiskered bat and Natterer's bat. This reflects the wide availability of prime habitat for bats in the county. Fifty eight percent of the county is included in the Daubenton's core range but this is still significant in a country-wide context and the lower percentage cover, compared to other species, reflects its preference for narrow riverine habitats. Kilkenny has a significant area of the core ranges of whiskered and Natterer's bats. Kilkenny is one of the most important counties for bats in Ireland.

Table 1: The percentage area of County Kilkenny included as part of the core area of bat species and percentage of each species' countrywide core area in the county. Values which are above the mean (for 26 counties in ROI) are marked (*), those counties with significantly higher values, greater than the average plus the standard deviation are marked (**).

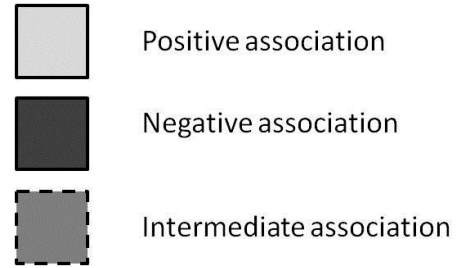
	Brown long-eared	Common pipistrelle	Soprano pipistrelle	Nathusius' pipistrelle	Lesser horseshoe bat	Leisler's bat	Daubenton's bat	Whiskered bat	Natterer's bat
% of county	98**	100**	93*	3	0	89*	58*	90**	94**
% of all-island core range	4	4*	3	0	0	3	3	6*	4*

In general, areas of highest occurrence of bats in Kilkenny occur in wooded river valleys, for example along the Suir in the south of the county and along the Barrow and the Nore. In addition, some squares with consistently high occurrence are found along tributaries of the Nore like the King's River. Areas of lower occurrence where bats may still be present but vulnerable and in lower numbers, include the higher ground and peatlands in the north west of the county. Also, higher ground in the Derrlylacky - Tory Hill - Carriganurra areas may have lower levels of overall bat activity. This general trend in distribution of activity appears to hold for most of the bat species in the county, although with some predicted to occur with higher frequency in the north (e.g. common pipistrelle) compared with some, which are predicted to occur more often in the south (e.g. Natterer's). The Nathusius' pipistrelle is predicted to occur, however, with greatest frequency (if at all) at the confluence of the Barrow and Suir rivers.

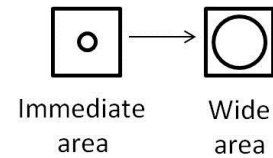
A summary of habitats associations of Irish bats

Below is a summary of the habitats favoured and avoided by bats. Two elements of habitat association are identified; direction of association (positive or negative) and scale of association (fine scale or broad scale).

Direction of association: The colour of the box identifies the direction of association. Three relationships are identified; a positive association, a negative association and an intermediate association. An intermediate association reflects that a species is positively associated with a small area of this habitat but as this area increases this association becomes negative. A non-filled box signifies that this habitat is not an important predictor of that species occurring.



Scale of association: The size of the circle identifies the scale of the habitat that is most important – a small circle identifies that this habitat is important in the immediate area whereas a large circle reflects an association with a that habitat at a wider landscape scale.



	Arable	Bog	Broadleaf forest	Mixed forest	Pasture	Riparian habitats	Scrub	Urban	Freshwater	Altitude
Brown long eared	White	Dark grey, small circle	Light grey, small circle	Light grey, large circle	White	Light grey, small circle	White	Dashed grey, small circle	White	White
Common pipistrelle	White	Dark grey, small circle	Light grey, small circle	Light grey, large circle	White	Light grey, small circle	White	Dashed grey, small circle	White	White
Lesser horseshoe	Dark grey, large circle	White	Light grey, large circle	Light grey, large circle	White	White	White	White	White	White
Liesler's	White	Dark grey, small circle	Light grey, small circle	Light grey, large circle	White	Light grey, small circle	White	Dashed grey, small circle	White	White
Daubenton's	White	Dark grey, small circle	Light grey, small circle	White	White	Light grey, small circle	White	Dashed grey, small circle	White	Dark grey
Nathusius' pipistrelle	White	Dark grey, large circle	Light grey, small circle	White	Dashed grey, small circle	White	White	White	Dashed grey, large circle	White
Natterer's	White	Dark grey, small circle	Light grey, small circle	Light grey, large circle	Dashed grey, small circle	Light grey, small circle	White	White	White	White
Soprano pipistrelle	White	Dark grey, small circle	Light grey, small circle	White	White	Light grey, small circle	White	Dashed grey, small circle	White	Dark grey
Whiskered	White	Dark grey, small circle	Light grey, small circle	Light grey, small circle	Dashed grey, large circle	White	Dashed grey, large circle	Dashed grey, small circle	White	White

Figure 1: Habitat suitability for brown long-eared bat (*Plecotus auritus*) in County Kilkenny. Darker areas indicate greater suitability.

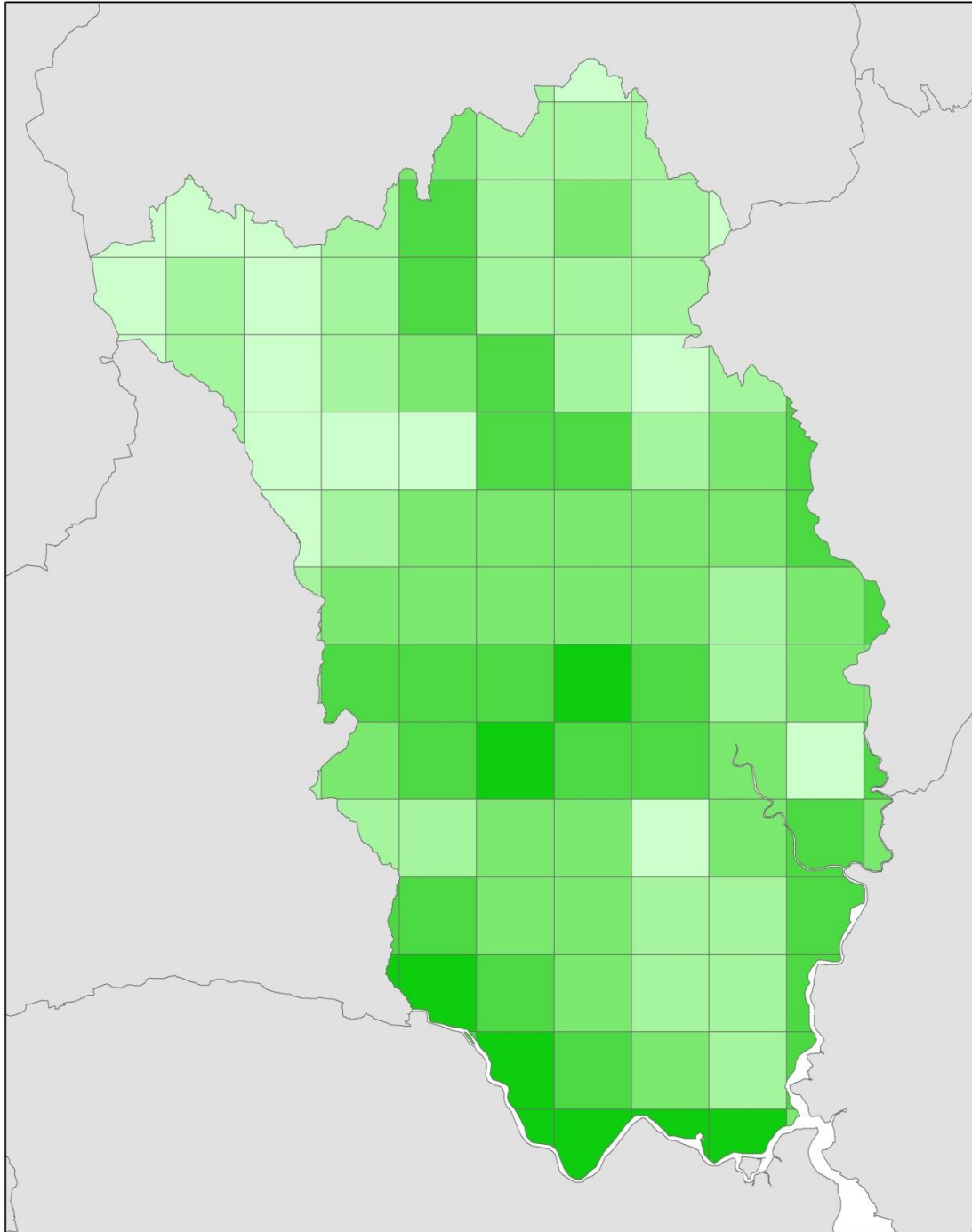


Figure 2: Habitat suitability for common pipistrelle (*Pipistrellus pipistrellus*) in County Kilkenny. Darker areas indicate greater suitability.

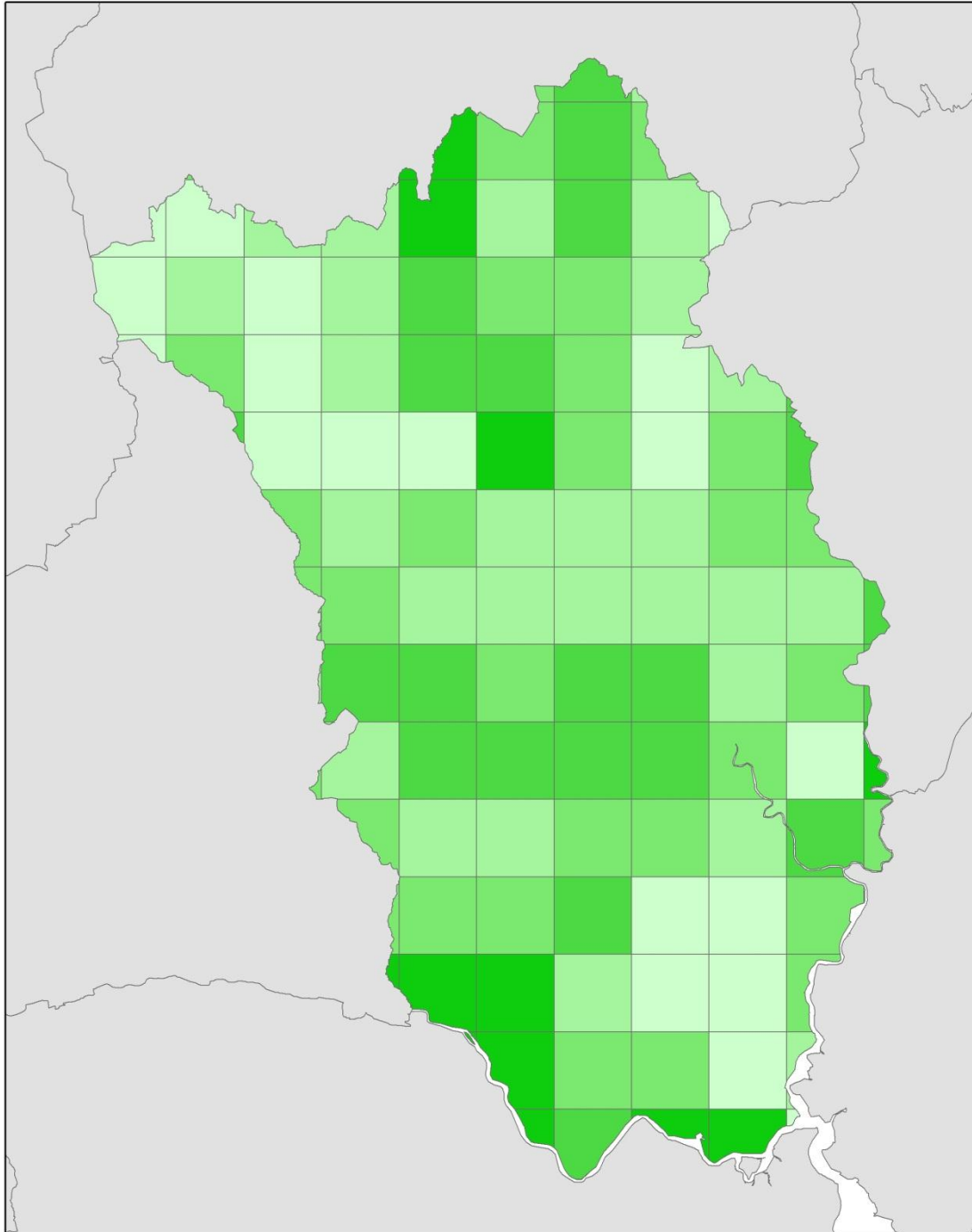


Figure 3: Habitat suitability for soprano pipistrelle (*Pipistrellus pygmaeus*) in County Kilkenny. Darker areas indicate greater suitability.

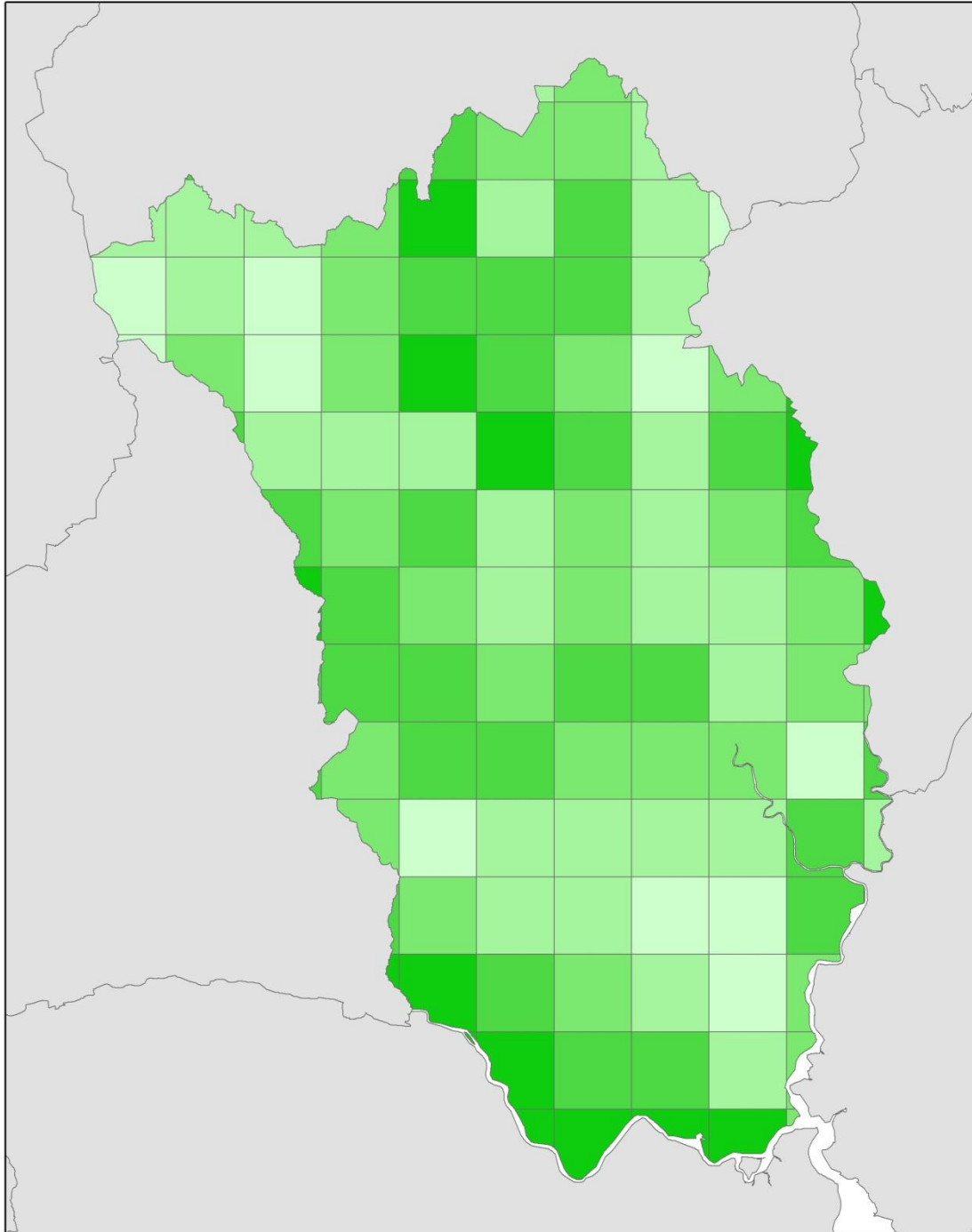


Figure 4: Habitat suitability for Nathusius' pipistrelle (*P. nathusii*) in County Kilkenny. Darker areas indicate greater suitability.

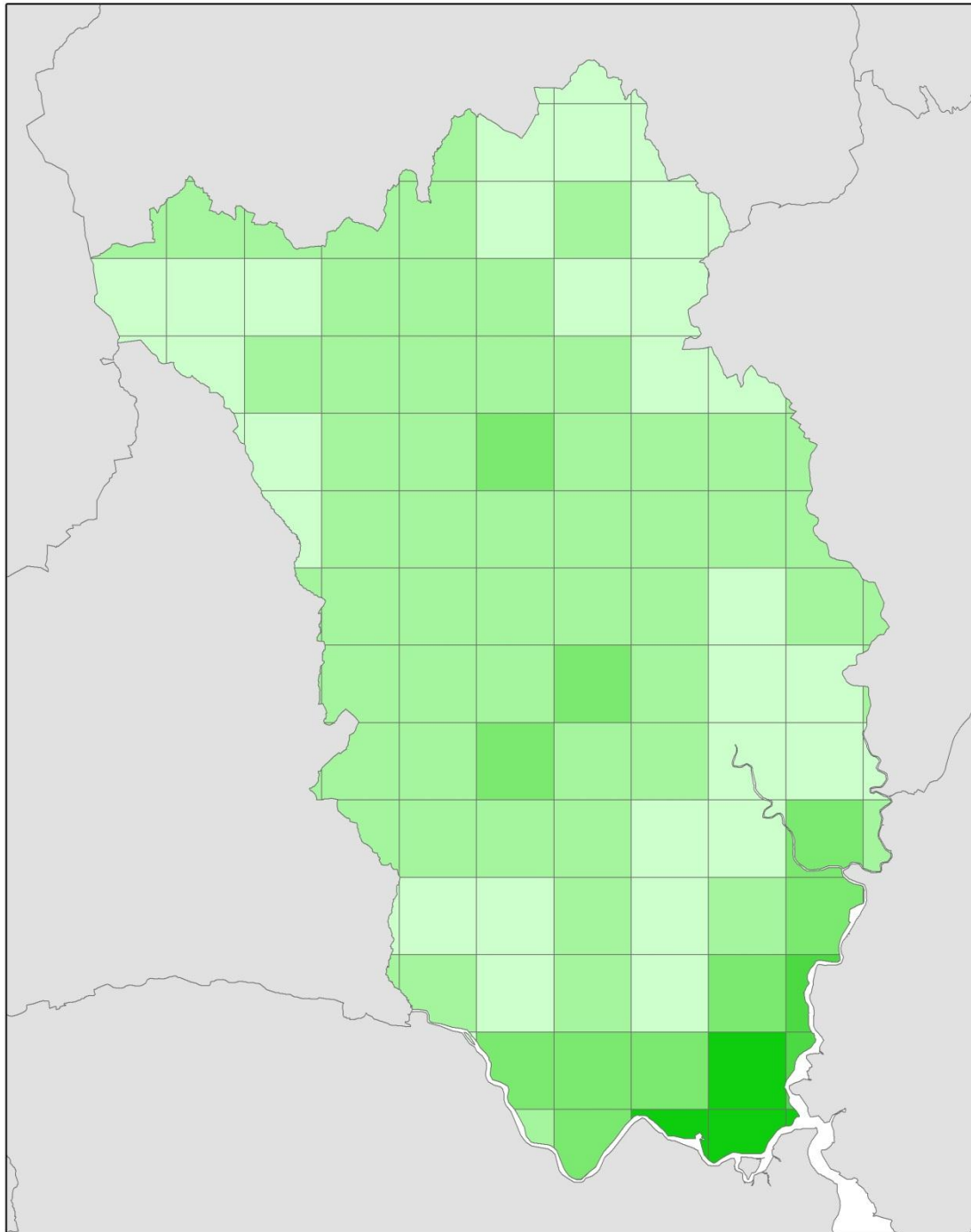


Figure 5: Habitat suitability for Leisler's bat (*Nyctalus leisleri*) in County Kilkenny. Darker areas indicate greater suitability.

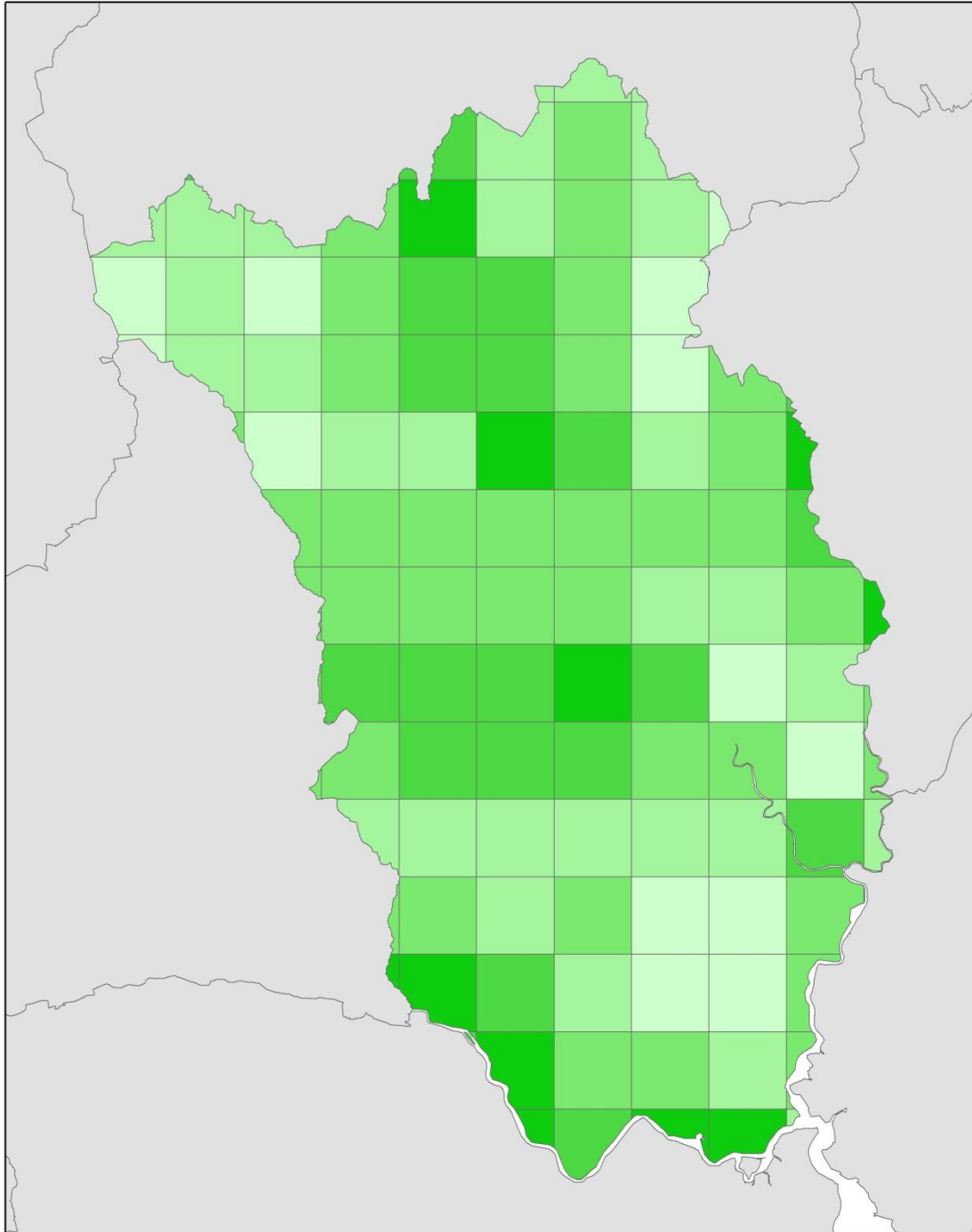


Figure 6: Habitat suitability for Daubenton's bat (*Myotis daubentonii*) in County Kilkenny. Darker areas indicate greater suitability.

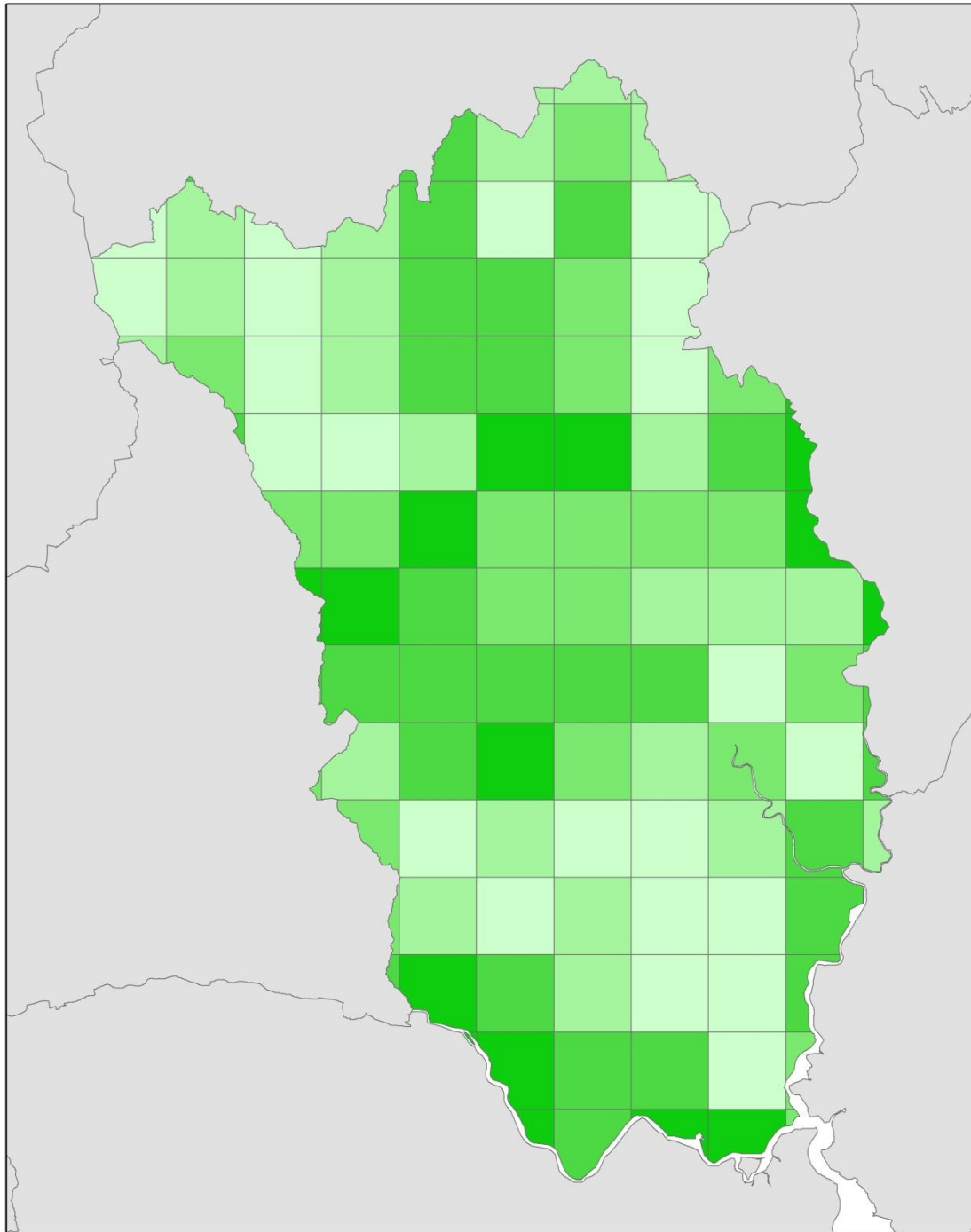


Figure 7: Habitat suitability for Natterer's bat (*Myotis nattereri*) in County Kilkenny. Darker areas indicate greater suitability.

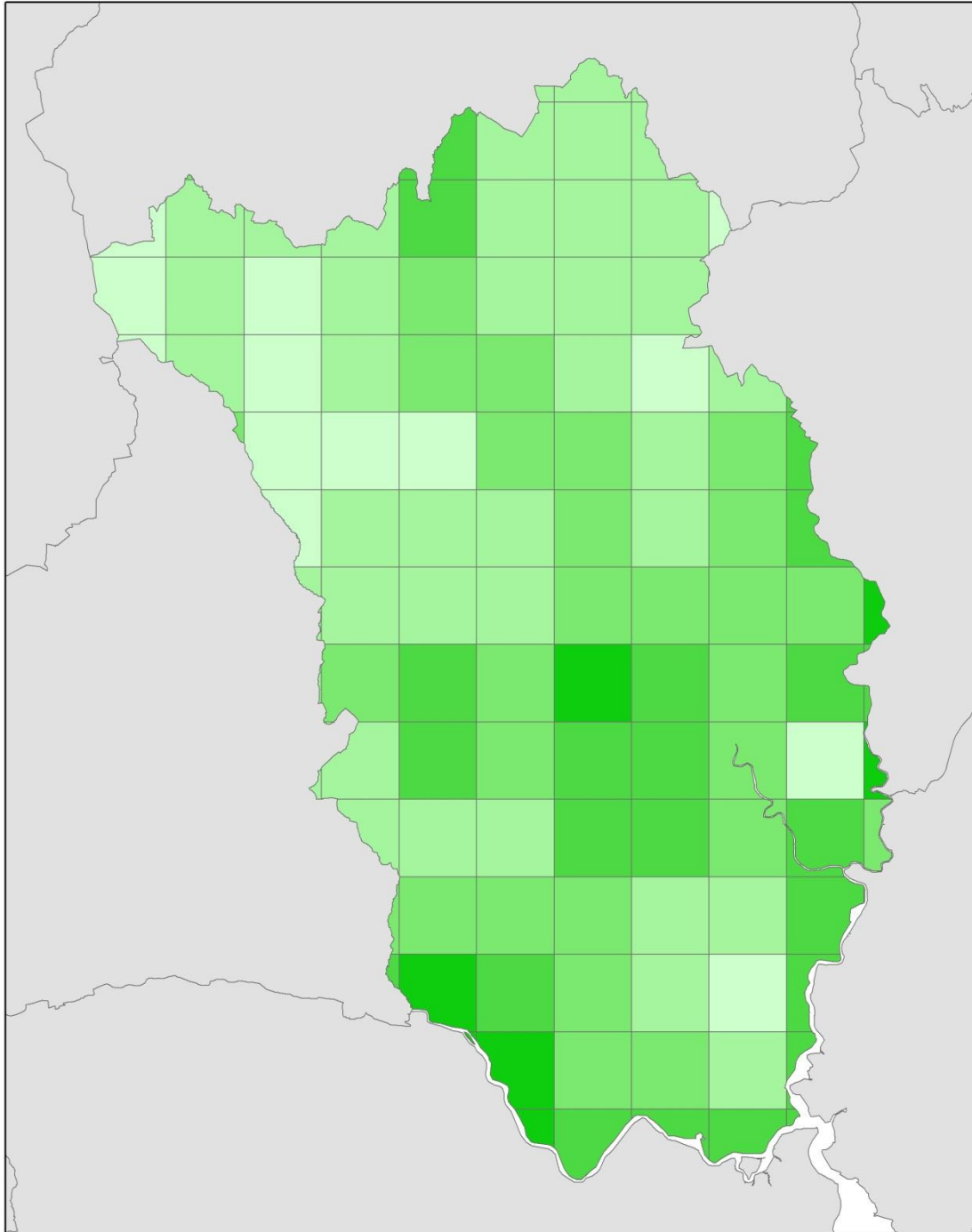


Figure 8: Habitat suitability for whiskered bat (*Myotis mystacinus*) in County Kilkenny. Darker areas indicate greater suitability.

