



# PARTRIDGE habitat mapping

*The diverse wildlife habitats on the Rotherfield demonstration site. © GWCT*

## BACKGROUND

The North Sea Region Interreg PARTRIDGE project, running from 2017 to 2023, is a multinational project, led by the GWCT, showing how best practice and novel management solutions can be used to enhance biodiversity in an agricultural landscape. These new management solutions are deployed at 10, 500-hectare demonstration sites across four countries, and their results are compared with 10 reference sites which are indicative of a typical farm in the same region.

## Habitat provision across the PARTRIDGE project

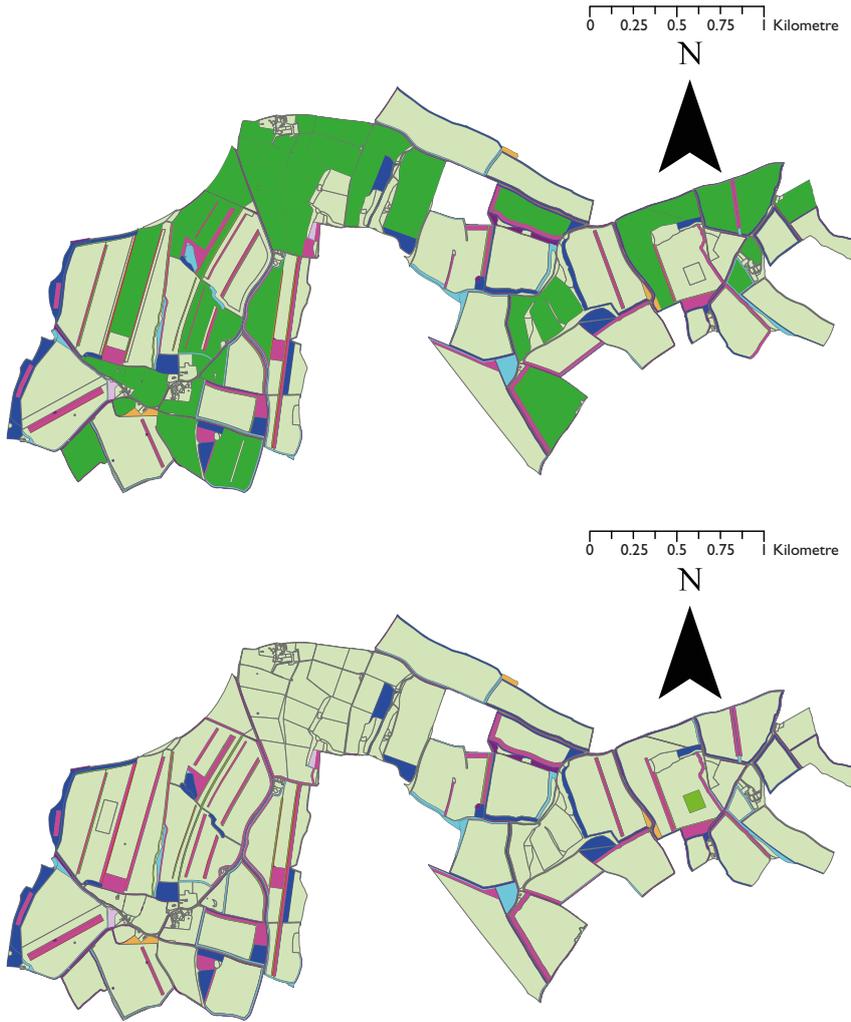
The PARTRIDGE project aims for a 30% increase in farmland biodiversity by 2023 across its 10, 500-hectare (ha) demonstration sites (two each in England, Scotland, the Netherlands, Belgium and Germany), with each demonstration site paired with a local reference site where habitat improvements have not been made. Habitat provision on the demonstration sites is tailored around the needs of grey partridges – with the thinking that if grey partridges can thrive in an arable landscape so can other farmland flora and fauna. In addition to monitoring wildlife (grey partridges, brown hares, other farmland birds), we also digitally map changes in habitat provision on every site to monitor progress towards a key objective – ensuring that at least 7% of the demonstration areas include high-quality, wildlife-friendly habitat. Habitat must provide suitable areas for nesting, brood-rearing or overwinter survival of grey partridges to qualify as high-quality. Maps are produced twice a year, one recording habitat in the summer and another during the winter, for a total of 240 maps during the lifespan of the project. PARTRIDGE partners record every single hedge, flower block, path and crop, with habitat descriptions following a mapping protocol containing 150 unique habitat types. As a result, our maps record detailed information on what is grown when, how it is managed and what it provides for grey partridges and other farmland wildlife.

All our demonstration sites have exceeded the 7% high-quality habitat target, with an average of 11.7% in our demonstration sites in the summer of 2020. At each demonstration site PARTRIDGE partners have taken a site-specific approach to habitat provision, working within the challenges presented by their country's agri-environment schemes, the funding available to them and the interests of the landowner(s).

## Rotherfield (England)

The Rotherfield demonstration site provides an excellent example of how to provide a diverse range of different high-quality habitat types across an area of roughly 500ha. Overall, 83ha of high-quality habitat has been established, of 23 different habitat types, covering 16% of the site. This exceeds the average of 15 different habitat types across the other demonstration sites. Approximately 15% of Rotherfield is covered by high-quality habitat which provides nesting and brood-rearing habitat for grey partridges, while 7% provides escape and foraging cover through the winter. This enhanced habitat also appeals to a wide variety of other farmland species. The Rotherfield site benefits from being managed by one farmer, reflecting the average size of farms in the UK.





**Figure 1**

The Rotherfield demonstration site in England, pictured in winter 2020 (top) and summer 2021 (bottom). Rotherfield boasts an incredibly diverse range of habitat types and provides the most beneficial habitat out of all of our demonstration sites

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- Beetle banks
- Floristically enhanced features
- High-quality hedges & herbaceous elements
- Pollen & nectar mixes
- Unenhanced grass margins
- Vogelacker or headlands
- Wild bird cover
- Winter stubbles
- Other habitat

**Burghsluis (Netherlands)**

PARTRIDGE partners have country-specific options available to them through their agri-environment schemes. One such option available to our Dutch partners is the 'Patrijzenrand' ('partridge border'), illustrated in Figure 2 from the Burghsluis demonstration area. Patrijzenrand is a combination of three different habitats (a flower strip, a grass strip and bare land) arranged in parallel strips. Individually these three habitats may at best provide moderate benefits for grey partridges, but arranged together they provide an all-in-one area for grey partridges to forage, nest and overwinter. Patrijzenrand is one of 15 habitat types present in Burghsluis, accounting for 15% of the high-quality habitat on that site.



**Figure 2**

The Burghsluis demonstration site in Zeeland, the Netherlands. The 'partridge edge' habitat (pictured in yellow) provides everything a grey partridge needs to thrive – food, nesting sites, and overwinter cover

- Partridge edge habitat
- Beneficial habitat



The Dutch 'patrijzenrand' habitat at the Burghsluis demonstration site. © Suzanne van de Straat

### KEY FINDINGS

- PARTRIDGE project partners across Europe have established habitats to aid grey partridge conservation and other farmland wildlife, covering at least 8% of their demonstration areas.
- Here we use computer mapping to illustrate how this is accomplished at four demonstration sites, taking into account local considerations.
- Habitat mapping provides both a visual interpretation of the extent of management and precisely quantifies the amounts of each habitat type at each site.

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### Diemarden (Germany)

Many sites in continental Europe cannot practise predation control of the sort that is legally possible in the UK, where it is directed towards reducing predation during grey partridge nesting. This leads to an increase in predation risk, exacerbated by the fact that many of the linear features on our demonstration sites, such as floristically-enhanced grass margins, are used by mammalian predators to travel around the sites. This is the case on the sites managed by our project partners in Germany. Their research has shown that it is possible to mitigate the impact of predators by substantially increasing the width of linear habitats. This reduces the likelihood of a predator stumbling across a grey partridge as it follows the edge of the feature. In Diemarden (see Figure 3), one of the German demonstration sites, thin linear features such as wild bird cover plots have been made 23% wider than the same linear feature in English and Scottish sites where predators are controlled.

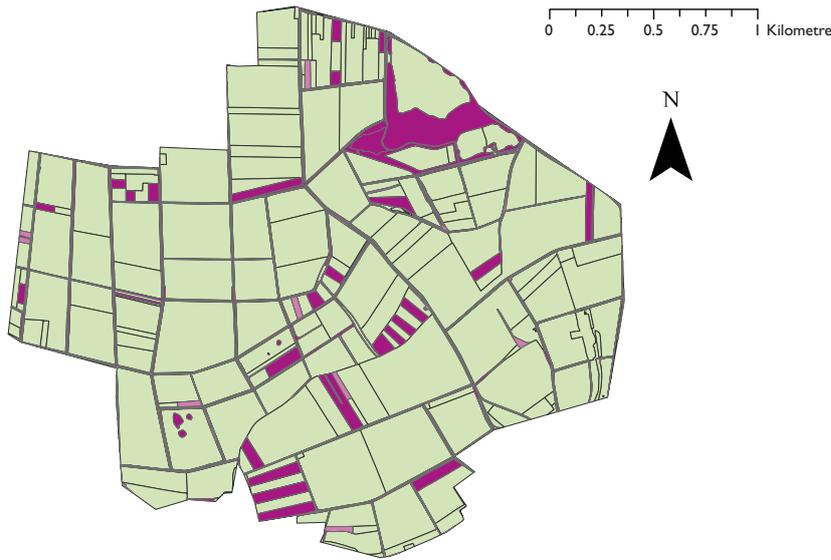
### Isbellapolder (Belgium)

Simply establishing good habitat is not enough to improve biodiversity – it then has to be managed correctly to ensure that it continues to provide maximum benefit. This applies to the rotational wild bird cover plots that have been implemented across many of our demonstration sites. These can provide nesting sites, overwinter cover and foraging habitat, even in the first year, depending on when they are sown. However, in the second year onwards the vegetation on the plot can grow too thick, becoming less beneficial for the species we aim to conserve.

Across our demonstration sites this is remedied by re-establishing parts of the plot in rotation each year, creating a mosaic of habitat ages and ensuring the plot never



One of the flower blocks established in our German demonstration sites. © Lisa Dumpe



**Figure 3**

Diemarden, one of our German demonstration sites. To mitigate the impact that predators have on grey partridges across the site many of the features are wider than they would be on a site with lethal predator management. Pictured in dark purple are wide features where grey partridges are better able to avoid predation

- Thin features with typical predation risk
- Wide features with decreased predation risk



**Figure 4**

Isbellapolder, one of two demonstration sites in Belgium. The rotational cutting of wild bird plots to ensure they provide the maximum benefit possible is most apparent here, with newly established plots coloured in light blue, and older plots in dark blue

*Partridge beneficial habitat.*

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- First-year wild bird cover
- Second-year wild bird cover
- Other beneficial habitat

grows so dense as to be unusable. A map of Isbellapolder, one of the demonstration sites managed by our Belgian partners (see Figure 4), provides an example of this. Roughly 3% of this site is occupied by wild bird plots, and the rotational re-establishment is clear to see on the map of the site. The cutting takes place outside the breeding season to ensure that hens and chicks are not disturbed or harmed by the mowing.



**ACKNOWLEDGEMENTS**

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*An aerial view highlighting the rotational re-establishment of wild bird cover at Isbellapolder.*  
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