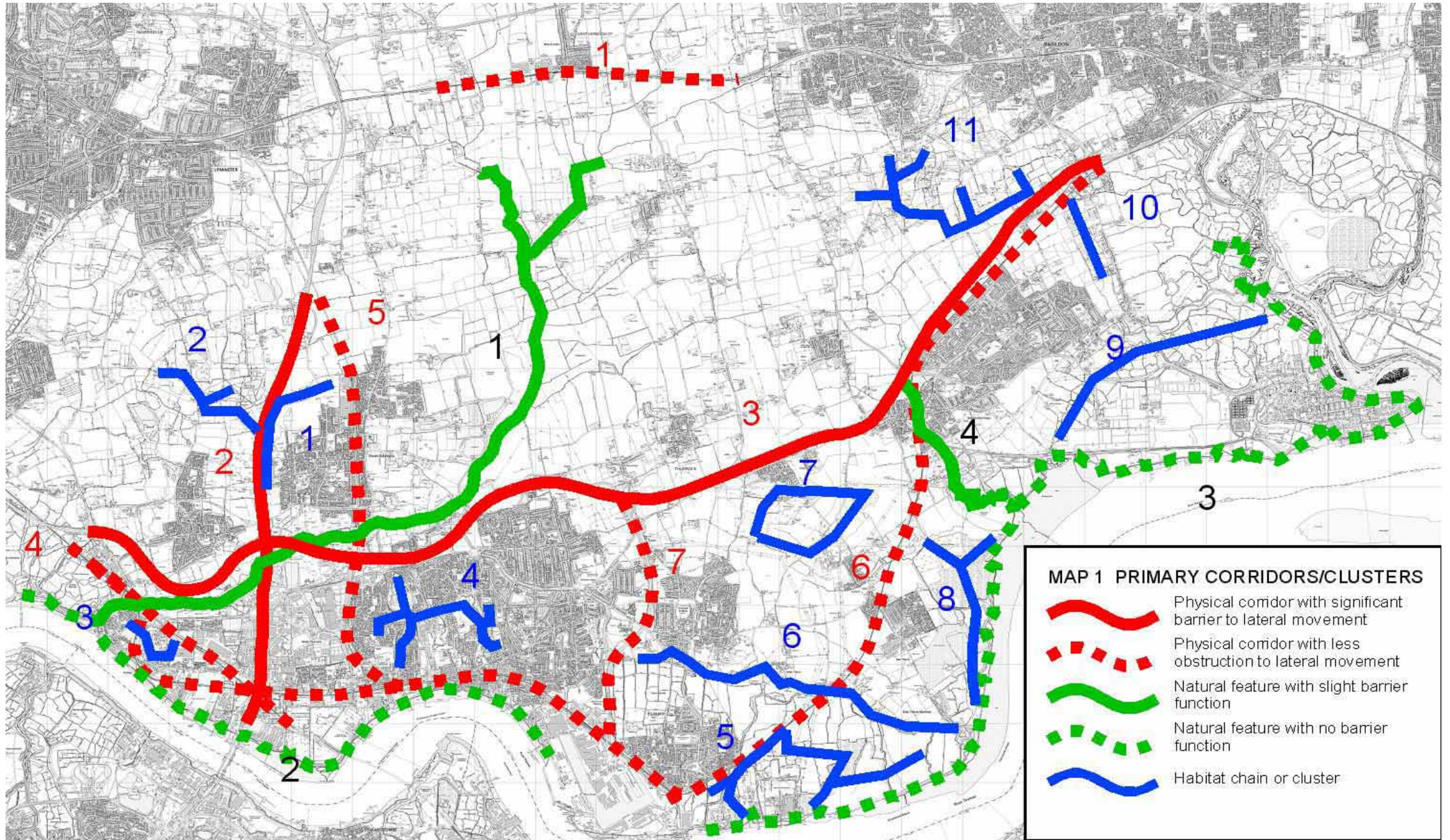


# Thurrock Biodiversity Study 2006 - 2011



### Wildlife Corridors in Thurrock

Opportunities for dispersal through the countryside can be considered as two distinct forms: via relatively or absolutely inflexible infrastructure features and also through general land use patterns and alignments. The first factor can be split into artificial and natural features, as illustrated in Map 1.

#### Artificial Infrastructure Corridors

These are essentially major road verges and railway lines. Map 1 differentiates between these features that will represent a major physical barrier to species attempting, or being driven, to cross the corridor, rather than move along it (solid red line), and those where they form less of a significant barrier (broken red line). As indicated above, our scientific knowledge of what makes a proven successful wildlife corridor at the landscape scale is almost nonexistent. However, our appreciation of what makes an identifiable barrier to movement is slightly better developed and it is suggested that any “green grid” would bear more fruit in terms of wildlife dispersal by addressing these issues rather than by attempting large-scale land use manipulation, at least in the first instance.

The significant barriers in Thurrock are the A13 (Map 1, red 3) and M25 (red 2) corridors, although it should be appreciated that even minor county roads can represent physical barriers for some species (Mader, 1984; Mader, 1988). Some of the cuttings and embankments of the M25 in particular represent significant areas of grassland that have obviously been colonised by a range of insects, birds and mammals. The frequent site of Kestrels hovering over such roads bears testament to the small mammal populations that have colonised and doubtless spread along these areas of rough grassland. However, the mortality of mammals, birds and insects caught trying to cross such features is not so often seen, unless it is the size of a Badger or deer.

A comparison of the distribution of the identified Local Wildlife Sites in Thurrock will show that the majority of them lie to the south of the A13, with virtually none to the north, other than around One Tree Hill country park. It would be wrong to jump to the conclusion that the A13 is responsible for this phenomenon, because the real reason lies in differences in geology and historical land use: much of the wildlife interest in Thurrock is associated with chalk exposures and Thames Terrace gravel deposits and these just happen to lie mainly to the south of the A13. However, it would be true to say that the landscape of the Bulphan Fen basin is impoverished in terms of wildlife and any habitat creation scheme trying to re-dress this balance will need to look at the “bigger picture” of how the target species will be able to move into the area when such barriers exist.

Map 1 also identifies what are likely to be rather more “permeable” artificial corridors, mainly railway lines, although even then these features may inhibit dispersal (see Yanes et al. 1995). The Upminster to Basildon railway line (Map 1, red 1) lies just outside the borough boundary, but it is a significant feature in an otherwise largely agricultural setting. Its function as a woodland corridor for birds, mammals and other wildlife remains conjectural, but is likely to be real and locally significant. The channel tunnel rail link (red 4) is a very new feature that may well have created habitat opportunities in its many cuttings through chalk and sand, mirroring the rather more mature line between Ockendon and Grays (red 5). The significance of such habitat is illustrated here with the inclusion of part of the railway cutting within the Grenville Road Grasslands Local Wildlife Site. The west-facing cutting supports (as far as can be seen from distant but legal vantage points!) an interesting sparse grassland flora and

doubtless is home to the Mottled Grasshopper, which also lives within the narrow strip of grassland on the public side of the boundary fence. The ability of the Mottled Grasshopper, a rare Essex insect, to spread to other sites along this corridor would be worthy of closer study. Indeed this spread may well have already taken place.

The other “semi-permeable” corridors in this category are the Purfleet-Grays-East Tilbury railway line (red 6) and the A1089 from the A13 to Tilbury Docks (red 7, although its position here rather than as a significant barrier to movement is a debatable one). The Purfleet-Grays-East Tilbury railway line runs through many post-industrial/brownfield sites in Purfleet and West Thurrock, giving it the potential to link these sites ecologically, especially for reptiles, small mammals and perhaps some invertebrates. The numerous small cuttings also provide interesting habitat where it cuts into the chalk and any over-lying sand. In the east of the borough it passes through a largely open arable landscape either side of East Tilbury, where some role as a piece of linear scrub woodland/grassland strip is likely.

### Natural Infrastructure Corridors

This term is taken to mean more or less natural physical features over which we have little overall control on their whereabouts. This includes two major watercourses and the coastal fringe. The most significant of these is the Mar Dyke (solid green, line 1, Map 1). It is an obvious corridor feature, but it is effectively immovable. It clearly has the ability to allow aquatic species to migrate along its length, but it could also act as a grassland corridor, subject to the state of bankside vegetation. However, it must be accepted that the river is, to some species, just as much of a barrier to lateral movement as are the major trunk roads. This will have its greatest affect on ground-dwelling invertebrates, reptiles (that can swim under duress but may not habitually do so, other than Grass Snake) and small mammals. A similar state of affairs exists on a smaller scale with regard to the Hassenbrook at stanford-le-Hope (solid green, line 4).

The second type of corridor in this category is perhaps not so obvious, it being the seawall/coastal strip along most of the borough’s estuary frontage (Map 1, green broken lines 2 and 3). Although the coastal has been hugely modified over most of its length, there now exists to a greater or lesser extent, a chain of small patches of grassland, brownfield land and waste ground, linked by longer stretches of rough grassland along most of this coastline. In the east this widens out into broader swathes of rough grassland developing on former landfill sites.

With regard to the western half of this corridor, any insect alighting in this section is almost forced to move laterally, given the inhospitable prospect of urbanised Grays and West Thurrock inland.

## Natural Habitat Chains

### More natural physical features

Map 1 also identifies (in blue) a number of more obvious chains of semi-natural habitat, including several Local Wildlife sites, where the dispersal of species is likely to occur more freely than in other parts of the borough. These chains are:

1. A narrow “green belt” between the M25 and South Ockendon, permitting north-south movement from the Mar Dyke valley to open countryside north of South Ockendon.
2. The cluster of woods and tree belts associated with Belhus Woods country park.
3. A small cluster of important brown field invertebrate habitats in Purfleet. As mentioned above, such clusters are essential to the survival of insect “meta-populations”.
4. A similar cluster of invertebrate sites associated with the old chalk quarries of Grays.
5. Coastal grazing marsh and ecologically linked areas of grazed restored land around Tilbury Fort.
6. The chain of Thames Terrace grassland sites between Chadwell St Mary and Coalhouse Fort.
7. A ring of important invertebrate sites, based on acid grassland and old mineral workings. As with chain 3, the concept of each site helping to support the others in a meta-population is an important one.
8. A developing band of restored landfill plots, now assuming a weedy rough grassland flora that will be highly attractive to invertebrates, some breeding birds and potentially reptiles.
9. The broad band of old coastal grazing marsh south of Corringham.
10. A chain of small paddocks and other grassland plots leading up Fobbing Hill towards Vange Depot. This area epitomises the value of blocks of “small-holdings” when viewed as a whole. Whilst none of the sites is, as far as is known, especially rich, the mosaic of numerous such plots, large gardens and thick hedgerows makes for a useful wildlife resource.
11. The woods and lanes of One Tree Hill.