

Biodiversity net gain. Good practice principles for development

Case studies

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20 Beam Parklands habitat creation, Dagenham, London

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20.1 PROJECT SUMMARY

Following extensive ecological assessments, the project safeguarded the habitats identified as most valuable. Construction works were carried out with consideration for protected species including GCN, water vole, reptiles, and Schedule 1 (The Conservation of Habitats and Species Regulations 2017) breeding birds (Wildlife and Countryside Act 1981). The project also integrated new, nationally-important UK BAP habitats within the existing ecological diversity of the site, and improved habitats for these protected species. These included reed beds, wet woodland and lowland fen, 10 000 trees and shrubs were also planted, which increased the connectivity with important areas beyond the boundary. The work formed a crucial element of London's 'green grid' (GLA, 2012). Natural play elements were designed into the project to encourage interactions between people of all ages and the natural environment.

The primary aim was for the redesign of the park to give a higher standard flood storage capacity to protect downstream assets. This would provide an improved community facility to contribute towards the regeneration of the area.



Figure 20.1 New wetland habitat with volunteers tending it

20.2 ISSUES

- The project has resulted in the creation of extensive reed beds along the Wantz Stream. However, the structures chosen to assist in the establishment of reed beds along the Beam River have largely been ineffective. To ensure more successful establishment, reed bed structures should be chosen to withstand the strongest and highest levels of flow, and located strategically where there is the greatest chance of establishing reed beds.
- The wet woodland on site has successfully established along the Wantz Stream, but has yet to establish next to the Beam River. Instead of extensive planting, the project team decided to create the physical conditions in which natural succession into wet woodland would occur. This was most successful where located next to existing wet woodland along the Wantz Stream. It has not yet resulted in success along the Beam River where there is little existing wet woodland. This evidence suggests that when wet woodland is a key habitat objective, proposed creation areas should be planted directly with wet woodland species, to give the best chance of successful establishment.
- While woodland planting across site has been successful, some orchard areas have not developed as intended.
- The project team decided that chemical treatment would not be used on site, either to treat invasive species or to remove aggressive grassland species from the topsoil. Japanese knotweed was effectively removed from site using mechanical methods, however *Crassula helmsii* and Himalayan balsam were not successfully eradicated and, in some locations, wildflower and lowland fen seeding has returned to rank grassland.

20.3 OUTCOMES

The focus of the works was on replacing low value habitats, such as amenity grassland, species-poor long and rough grassland areas, and extensive patches of bramble and nettle, with the higher value priority BAP habitats (wildflower meadow, wet woodland, lowland fen, reed beds and ponds). In most cases, the more valuable semi-natural habitat types were replaced by other priority or higher value habitats to ensure BNG. Such losses were restricted where possible and the replacement habitats were of at least equal ecological value overall.

The area of woodland habitat on site more than trebled, with woodland primarily replacing long grassland or amenity grassland. Also, there was an increase in the area of wetland habitats on site, with ponds also primarily replacing species-poor long grassland (including restricted areas of acid grassland).

About 600 m of the River Beam channel was subject to re-profiling works, and 180 m of the Wantz Stream and stands of invasive species have either been removed or are under treatment plans.

Some 200 m of new hedgerows have been planted on site and habitats were created for an additional seven species of bird in 2015 to 2016. This, when compared to the baseline in 2009 and the number of individual species such as reed, sedge and Cetti's warbler, was higher than was recorded at the baseline stage, and suggests a gradual increase in populations of those species on site.

Evidence of water vole was found in 2015 within the recently re-profiled area of the Wantz Stream and a DNA sampling in 2016 confirmed that GCNs had expanded in range from the eastern side of site to the new pond furthest west on site.