A BIOPHILIC HAVEN BY THE THAMES IN LONDON, UK

ABOVE AND LEFT: Bird Barge with roosting cormorant and gulls
Photo Credit: Mike Wells

By Mike Wells

Wandsworth Riverside Quarter is a strategic waterfront development of 700 apartments and 350,000 square feet of commercial and leisure space on the River Thames at the confluence with the River Wandle in the London Borough of Wandsworth, UK.

The development site was formerly used as an oil depot. Oil barges used to moor at a large industrial jetty just offshore in the Thames. After the decommissioning of industrial uses, the site became colonized naturally by a rich array of wildlife, including invertebrate populations of notable importance in a London context. The old jetty and some of the trees on site continued to provide a roost for an assemblage of riverine birds, including important numbers of cormorant (Phalacrocorax carbo) and grey heron (Ardea cinerea).

The biophilic qualities of the scheme have developed over time. The scheme is generally of high landscape quality as promoted and required by the site developer, Frasers Property. I have been the project ecologist responsible for ecological assessment and design on behalf of the developers for almost twenty years, initially at NPA Environmental Planners and for the last decade through my company Biodiversity by Design (both in Bath, UK). I have advised on all the ecological aspects of the scheme from initial site assessment, to public consultation and full environmental impact assessment, through to outline planning approval and implementation.

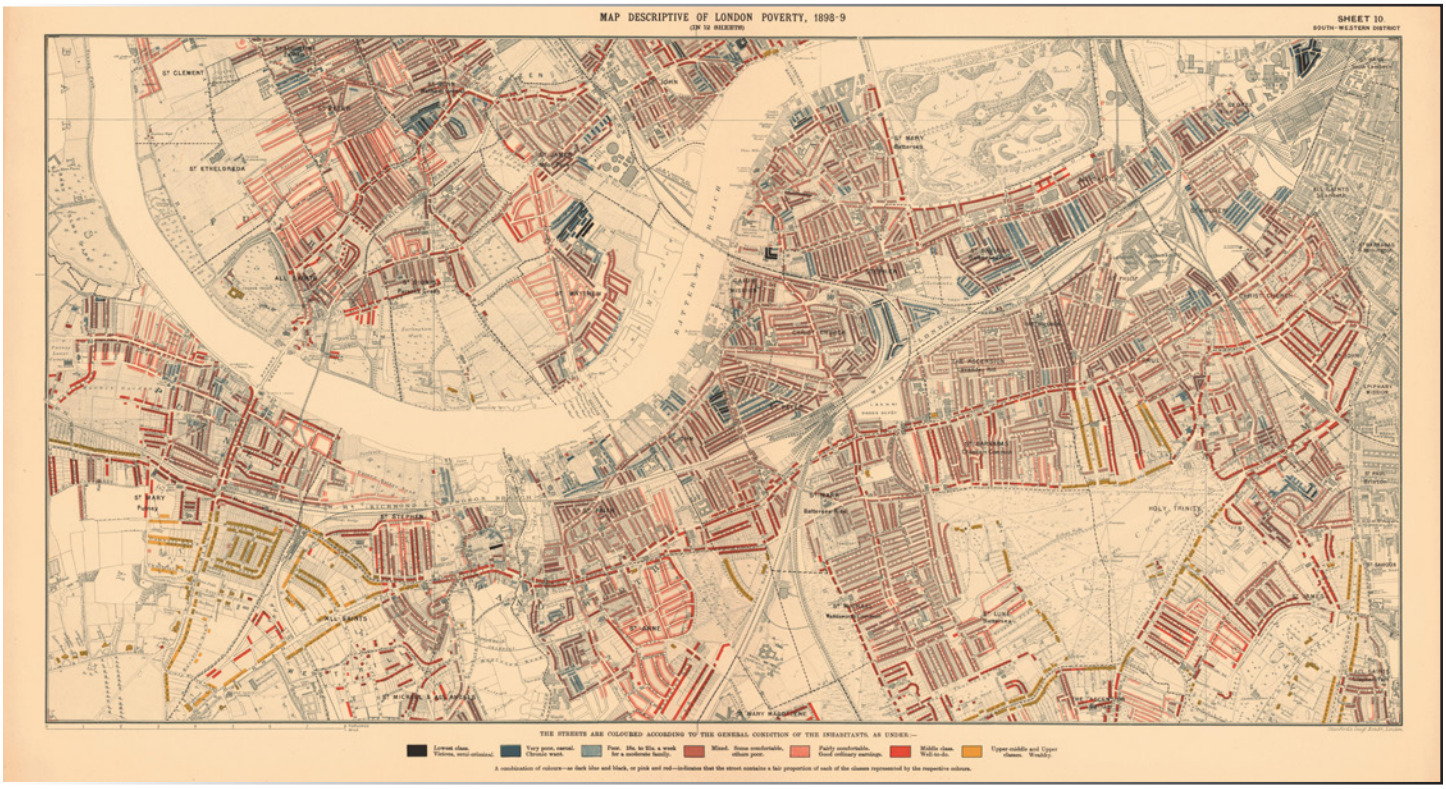
The following features of the scheme are of particular note in terms of biophilic design:

• The scheme provides mitigation for the loss of the oiling jetty (which was demolished and replaced with low pontoons for pleasure boats and barges), by installing floating "bird barges" on the Thames. These proved highly successful in providing secure roost sites for the riverine fish-eating birds and other waterfowl displaced by the site enabling works. The bird barges are at the same time habitats, art installations and indicators of ecosystem health. The presence of fish-eating birds in great numbers reflects the significant ecological recovery of the Thames tideway in recent decades. Retaining such waterfowl in the local area in this dramatic way adds real value to the development in terms of sense of place, providing considerable interest and ecopsychological benefits to residents, visitors and passers-by alike.

• The scheme creates habitat for smelt (Osmerus eperlanus), which is a relative of the salmon. This is a species of conservation concern in Europe and is recognized as a priority species for conservation action by the UK government. The key spawning area for this species in London is close to the Thames-Wandle confluence. Here, the river wall was cut back and a series of folded and sloped step intertidal terraces were installed at the site's north-east corner. The folds and slopes enable juvenile and adult fish to access the vegetated intertidal terraces at high water, including certain species and stages of fish that tend not to swim up and over step barriers they meet. The terraces are a riot of color in summer due to the flowering of native emergent plants specially selected and planted there.

• The new landscape, across the site at ground level and on the roofs of key buildings, draws inspiration from the former pattern of osier (Salix viminalis) beds and channels at the "delta" of the River Wandle that existed in the late 1800s. Historically, the willow beds were cut to use the willow stems for baskets and other items. Sinuous landscape forms snaking towards the River Thames were created, reinforcing a sense of place and biological and cultural history. The arrangement around these landforms creates vistas through to the river and the heavily wooded Hurlingham Club grounds beyond, creating an intense green setting for a site so close to central London.

• Habitats at both ground and



ABOVE: London Historical Map, 1898
Photo Credit: Mike Wells

Wandsworth Riverside Quarter Intertidal Terraces in Flower
Photo Credit: Mike Wells

roof level were designed with careful consideration of the autecology of displaced and other target species. For example, the biodiverse roofs incorporate areas designed for shallow floods in winter and summer rainstorms, to mimic the conditions of river -edge gravel habitats frequented by uncommon terrestrial invertebrates. Particular plant species required as food plants by certain species were favored in the design. The proposals included the installation of a wooded, semi-natural play area by the River Wandle with a very rich native groundflora and a wide variety of specific habitat installations for target species.

The scheme was a case study in the UK Environment Agency's publication on riverine habitat enhancements in London. With its promotion of abundant urban biodiversity, semi-wooded landscapes, "prospect and refuge" and the "celebration of water" - the scheme has very strong biophilic design characteristics for a high-density urban development.

Resources

Environment Agency (2001). Enhancing the Environment: 20 Case Studies in London. EA London. Retrieved form http://www.environmentdata.org/archive/ealit:626.

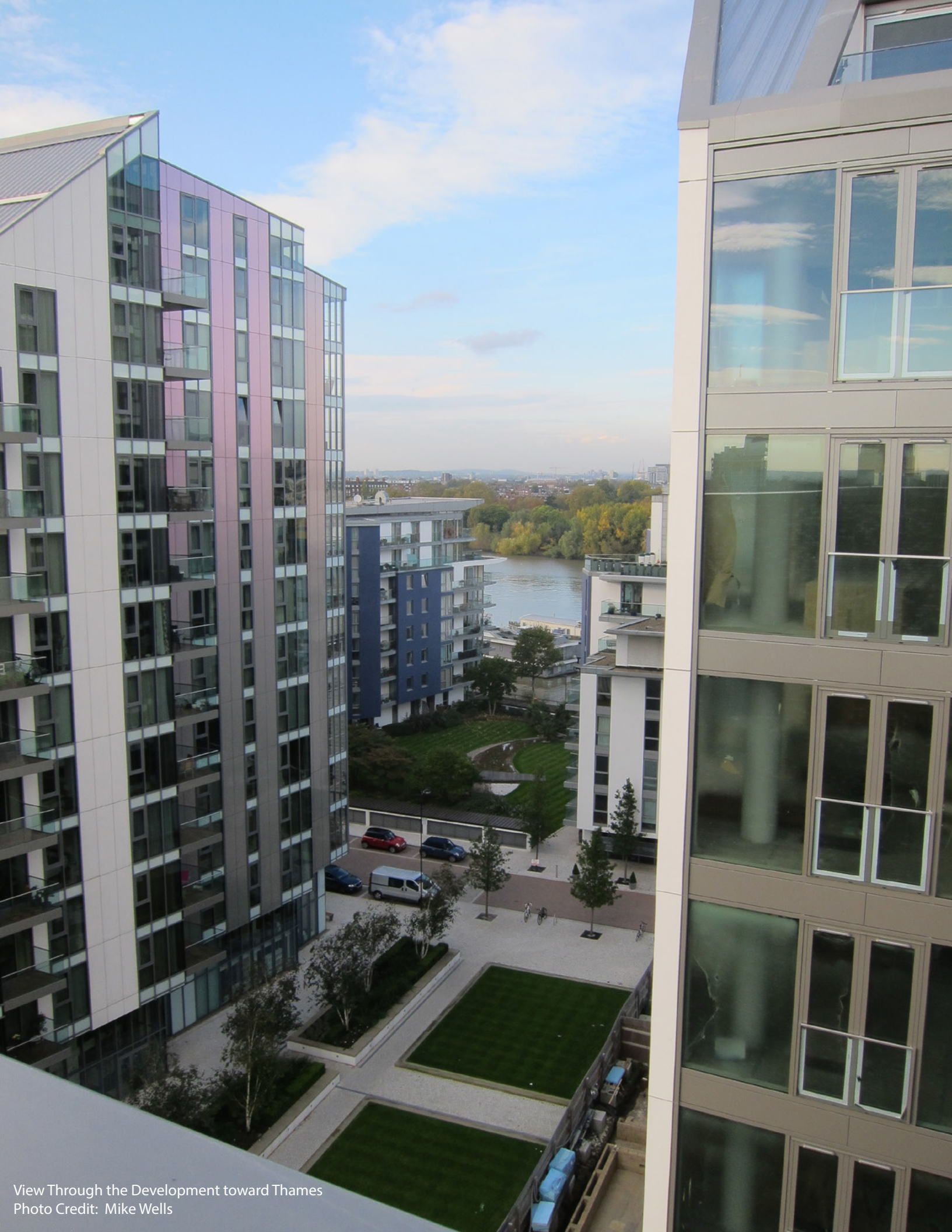
Kellert, Stephen, Heerwagen, Judith, and Mador, Martin (2008). Biophilic Design. John Wiley and Sons. Hoboken, New Jersey. Information available at: http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470163348.html.

Acknowledgements

Sincere thanks are due to:
- Frasers Property for involvement in this interesting scheme and permission to publish this short article.
- Capita landscape for 20 years of design collaboration and use of drawings.
- Assael Architects for original involvement in the project at the concept stage.
- The UK Environment Agency and Valerie Selby, ecologist for the London Borough of Wandsworth.
- 'Enable, Leisure and Culture', for their long-term support and active involvement.

Dr. Mike Wells is Director of Biodiversity by Design Ltd, UK.

BIODIVERSITY BY DESIGN
Waterhouse, Waterhouse Lane, Monkton Combe, Bath, BA2 7JB, UK
t: +44 (0)1225 723 199 | www.biodiversitybydesign.co.uk



View Through the Development toward Thames
Photo Credit: Mike Wells