

Appendix F: Biodiversity

Appendix F Table 1: Designated Nature Conservation Sites within 2.5 km of the Channel Section 1 site

Appendix F Table 2: Designated Nature Conservation Sites within 2.5 km of the Channel Section 2 site

Appendix F Table 3: Designated Nature Conservation Sites within 2.5 km of the Channel Section 3 and Desborough Cut site

Appendix F Table 4: Designated Nature Conservation Sites within 1 km of the Weir Locations

Appendix F Table 5: Designated Nature Conservation Sites within 2.5 km of the Ham Lands FSA

Appendix F Table 6: Common and Latin names of species mentioned

Appendix F Table 7: Summary of the ecological value of the principle protected and notable species within the study area

Appendix F Table 8: Common and Latin names of species mentioned

This Page has been intentionally left blank.

Appendix Table 1: Designated Nature Conservation Sites within 2.5 km of the Channel Section 1 site

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Statutory Sites		
South West London Water bodies (SWLW), SPA and Ramsar site.	0	<p>A series of reservoirs and former gravel pits supporting a range of man-made and semi-natural open water habitats. These sites provide important feeding and roosting sites for wintering populations of gadwall and shoveler due to the numbers of European importance that occur.</p> <p>International and European value.</p>
Windsor Forest & Great Park SAC.	2375	<p>Designated for old acidophilus oak woods in the south-eastern part of its UK range. Other qualifying features include Atlantic acidophilus beech <i>Fagus sylvatica</i> forests with common holly <i>Ilex aquifolium</i>, Violet click beetle and sometimes also yew <i>Taxus baccata</i> in the shrub layer.</p> <p>International and European value.</p>
Wraysbury & Hythe End Gravel Pits SSSI.	0	<p>The site supports nationally important numbers of wintering tufted duck <i>Aythya fuligula</i>, gadwall and goosander <i>Mergus merganser</i> together with an important assemblage of breeding birds associated with open waters and wetland habitats. In addition the site supports the nationally scarce riffle beetle <i>Oulimnius major</i> and caddisfly <i>Leptocerus lusitanus</i> and a number of locally uncommon plants.</p> <p>National value. Note that large parts of this site are also part of SWLW SPA and Ramsar site.</p>
Wraysbury No.1 Gravel Pit SSSI.	20	<p>A former gravel pit and land stretching south east to Junction 13 of the M25. Designated for nationally important numbers of wintering gadwall. The site also supports small but significant numbers of shoveler, goldeneye <i>Bucephala clangula</i> and smew <i>Mergus albellus</i> in winter. The site is also locally important for other wintering bird species including great crested grebe <i>Podiceps cristatus</i>, cormorant <i>Phalacrocorax carbo</i>, pochard <i>Aythya farina</i>, tufted duck and coot <i>Fulica atra</i>.</p> <p>National value. Note that large parts of this site are also part of SWLW SPA and Ramsar site.</p>
Wraysbury Reservoir SSSI.	275	<p>An artificial reservoir supporting man-made open water habitat and cited for the nationally important numbers of wintering cormorant, great crested grebe and shoveler.</p> <p>National value. Note that large parts of this site are also part of SWLW SPA and Ramsar site.</p>
Langham Pond SSSI.	720	<p>The pond and surrounding habitat of alluvial meadows is unique within the south of England, supporting rich marginal, aquatic and meadow floras. The pond supports four nationally uncommon invertebrate species; the cranefly <i>Erioptera squalida</i>, a soldier fly <i>Odontomyia tigrina</i>, an empid <i>Lonchoptera scutellana</i>, and one species of fly recorded nowhere else in Britain <i>Cerodontha ornata</i>. The scarce variable damselfly <i>Coenagrion pulchellum</i> is also present. Three nationally scarce plants are supported on site: whorled water-milfoil <i>Myriophyllum verticillatum</i>, orange foxtail grass <i>Alopecurus aequalis</i> and, in its only Surrey locality, greater water parsnip <i>Sium latifolium</i>.</p> <p>National value.</p>

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Staines Moor SSSI.	975	<p>The site chiefly consists of Staines Moor, a semi-natural stretch of the River Colne which flows through it, and three adjacent reservoirs. Staines Moor represents the largest area of alluvial meadows in Surrey and supports a rich flora while the reservoirs hold nationally important populations of tufted duck, pochard, goosander and shoveler. A pond at the site supports the nationally important small water-pepper <i>Polygonum minus</i>; a plant which is extremely rare in Britain.</p> <p>National value. Note that large parts of this site are also part of SWLW SPA and Ramsar site.</p>
Thorpe Hay Meadow SSSI.	2230	<p>Believed to be the last remaining Thames valley hay meadow in Surrey, this site supports a range of lime-loving plant species. From discussions with Natural England and Surrey Wildlife Trust it has become apparent that downy-fruited sedge <i>Carex filiformis</i> is the primary species of interest for this site.</p> <p>National value.</p>
Windsor Forest and Great Park SSSI.	2375	<p>The largest continuous area of woodland and parkland in Berkshire providing habitat for a range of rare species of invertebrate including the internationally important violet click beetle <i>Limoniscus wolaceus</i> and stag beetle <i>Lucanus cervus</i> and a rich assemblage of other Red Data book beetles and flies. The range of provisional Red Data List fungi present includes <i>Buglossoporus pulvinus</i>, <i>Phelinus robustus</i>, <i>Boletus regius</i> and <i>Hericium coralloides</i>. In addition there are areas of unimproved acid grassland.</p> <p>National value.</p>
Arthur Jacob Nature Reserve LNR.	680	<p>Formed from derelict sewage treatment lagoons the site has been managed as a wetland habitat since 1996.</p> <p>Borough value.</p>
Non-statutory Sites (SNCI)		
Datchet Common and Gravel Pits.	0	<p>Grassland habitat.</p> <p>Borough value.</p>
Horton & Kingsmead Lakes.	0	<p>Series of gravel pits with significant bird interest lying adjacent to internationally important area.</p> <p>Borough value.</p>
Wraysbury 1 Gravel Pits.	0	<p>Primarily of broadleaved woodland and scrub habitat.</p> <p>Borough value.</p>
Wraysbury 2 Gravel Pits.	0	<p>Grassland and scrub habitat.</p> <p>Borough value.</p>
River Thames – Runnymede.	23	<p>Primarily riparian habitat.</p> <p>Regional value due in part to the importance of the River Thames to migratory fish.</p>
Queen Mother Reservoir.	25	<p>Large reservoir with seeded grassland banks.</p> <p>Borough value.</p>

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Wraysbury Reservoir.	45	The grassland surrounding the reservoir is selected as an important buffer for the Wraysbury Reservoir SSSI which is also part of the SWLW SPA Ramsar site. Borough value.
Colne Brook.	55	Primarily riparian habitat. Borough value.
Runnymede (including Cooper's Hill and Cooper's Hill Slopes).	268	Unimproved and semi-improved grassland and ancient semi-natural woodland habitats. Borough value.
Hilda May Lake.	508	A wetland nature reserve with two mesotrophic lakes, important for wildfowl, and a pond with associated ditch. Borough value.
Church Lammas.	660	Selected for species rich grassland, containing at least 16 species typical of grassland of conservation interest in Surrey. The site also supports swamp and reedbed habitats and serves as Accessible Natural Greenspace within an urban area. Borough value.
Moor Lane Nature Reserve.	785	Selected for its diverse wetland habitat. Species recorded on the site include small water-pepper & whorled water-milfoil <i>Myriophyllum verticillatum</i> as well as lesser water parsnip <i>Berula erecta</i> & thread-leaved water crowfoot <i>Ranunculus trichophyllus</i> (scarce in Surrey). Borough value.
River Thames (and towpath) Spelthorne.	1040	Section of River Thames which falls within top 10per cent of UK watercourses due to macroinvertebrate diversity. Supports range of NERC Priority species including eel <i>Anguilla anguilla</i> , salmon <i>Salmo salar</i> , sea trout <i>Salmo trutta</i> , depressed river mussel <i>Pseudanodonta complanata</i> and otter <i>Lutra lutra</i> . Regional value.
West of Poyle Meadows.	1710	The site's position is important abutting Staines Moor SSSI and therefore acts as a buffer. In addition it continues to support good emergent vegetation either side of the flood relief channel. Borough value.
Birch Green by River Ash.	1730	The site was selected in 1996 for its wet grassland with ant hills. This type of grassland is uncommon and declining in the County. Following the review in 2010, it was reselected for its diverse emergent flora. Borough value.
East of Poyle Meadows.	1776	Selected for its wetland habitats including reedbeds and swamp. Species present are indicative of River Thames Alluvial soils supported. The site is an important buffer between the M25 & Staines Moor SSSI. Borough value.
River Colne (from county boundary to Staines Moor) Stanwell	1830	Falls within the top 10per cent of watercourses nationally for macroinvertebrate fauna (1996). This section of river supports a diverse fish

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Moor.		community including eel and is a spawning site for barbel <i>Barbus barbus</i> . Regional value.
Upton Court Park Wetland.	2000	Wet woodland and sedge fen habitats. Borough value.
Greenham's Fishing Pond.	2110	The site is selected for its wetland habitat which complements the wider mosaic of wetland habitats present in the surrounding M25 corridor area. Borough value.

Appendix Table 2: Designated Nature Conservation Sites within 2.5 km of the Channel Section 2 site

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Statutory Sites		
South West London Water bodies (SWLW), SPA and Ramsar site.	7	A series of reservoirs and former gravel pits supporting a range of man-made and semi-natural open water habitats. These sites provide important feeding and roosting sites for wintering populations of gadwall and shoveler due to the numbers of European importance that occur. International and European value.
Thorpe Hay Meadow SSSI.	0	Believed to be the last remaining River Thames valley hay meadow in Surrey, this site supports a range of lime-loving plant species. From discussions with Natural England and Surrey Wildlife Trust it has become apparent that downy-fruited sedge is the primary species of interest for this site. National value.
Thorpe Park No. 1 Gravel Pit SSSI.	7	A former gravel pit now supporting open water, scrub and woodland habitats. This SSSI is designated for the nationally important numbers of gadwall it supports in winter. National value. Note that this entire site is also part of the SWLW SPA and Ramsar.
Dumsey Meadow SSSI.	455	An unimproved neutral grassland habitat that is now rare in south east England. National value.

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Staines Moor SSSI.	1855	<p>The site chiefly consists of Staines Moor, a semi-natural stretch of the River Colne which flows through it, and three adjacent reservoirs. Staines Moor represents the largest area of alluvial meadows in Surrey and supports a rich flora while the reservoirs hold nationally important populations of tufted duck, pochard, goosander and shoveler. A pond at the site supports the nationally important small water-pepper <i>Polygonum minus</i>; a plant which is extremely rare in Britain.</p> <p>National value. Note that large parts of this site are also part of SWLW SPA and RAMSAR.</p>
Chertsey Meads LNR.	690	<p>A remnant floodplain meadow habitat with rich floral lime-loving assemblages.</p> <p>Borough value.</p>
Non-statutory Sites (SNCI)		
River Thames – Runnymede.	0	<p>Primarily riparian habitat.</p> <p>Regional value due in part to the importance of the River Thames to migratory fish.</p>
Chertsey Bourne at Abbey Lake Complex.	0	<p>Primarily riparian and open water habitats.</p> <p>Borough value</p>
Abbey Lake Complex.	0	<p>Primarily open water habitats.</p> <p>Borough value.</p>
Laleham Burway Golf Course.	0	<p>Small pockets of semi-improved & unimproved grassland within an amenity grassland dominated golf course.</p> <p>Borough value.</p>
River Thames (and towpath) – Spelthorne.	25	<p>This section of the River Thames is within the top 10per cent of UK watercourses for macroinvertebrate diversity. Supports a range of NERC Priority species including eel, salmon, sea trout, depressed river mussel and otter.</p> <p>Regional value.</p>
Shepperton Quarry.	90	<p>Two large water bodies important for overwintering wildfowl.</p> <p>Borough value.</p>
Penton Hook Island.	335	<p>Selected for the diversity of wetland habitats supporting the nationally scarce round fruited rush <i>Juncus compressus</i> & the Surrey scarce meadow crane's-bill <i>Geranium pratense</i>.</p> <p>Regional value.</p>
Littleton Lake.	640	<p>An important wetland habitat supporting wintering and summer breeding birds of county level importance.</p> <p>Borough value.</p>
Chertsey Meads.	685	<p>Calcareous grassland habitat.</p> <p>Borough value.</p>

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Chertsey Bourne at Chertsey Meads.	895	Primarily riparian habitat. Borough value.
Sheepwalk Lake.	970	Selected as an important wetland supporting bird assemblages of county importance for both wintering and summer breeding birds. Borough value.
The Moat Woodcock Farm.	1120	Primarily riparian habitat. Borough value.
West of Queen Mary Reservoir.	1510	Selected for its importance to wildfowl and visiting seabirds. The site is adjacent to Queen Mary Reservoir. Borough value.
Charlton Quarry.	1535	Eutrophic lake with grass margins and numerous willows. Broadleaved tree species have been planted. Borough value.
Pannells Farm.	1575	Wet grassland and pond habitats. Borough value.
Woburn Park Stream.	1585	Primarily riparian habitat. Borough value.
Church Lammas.	1835	Selected for species rich grassland, containing at least 16 species typical of grassland of conservation interest in Surrey. The site also supports swamp and reedbed habitats (NVC S4 & S14) and serves as Accessible Natural Greenspace within an urban area. Borough value.
Birch Green by River Ash.	1870	The site was selected in 1996 for the wet grassland with ant hills. This type of grassland is uncommon and declining in the County. Following the review in 2010, it was reselected for its diverse emergent flora including NVC communities S5 and S14. Regional value.
Shortwood Common North.	1910	Selected as a remnant of important alluvial grassland contiguous to Shortwood Common SSSI. It supports a Surrey rare plant species, spiny restharrow. Regional value.
Queen Mary Reservoir.	2005	Selected for its importance to wildfowl and visiting seabirds. The site lies in an important position close to the South West London SPA/Ramsar and adjacent to the West of Queen Mary Reservoir SNCI. Regional value.
Hardwick Court Farm Fields.	2010	Semi-improved grassland habitat. Borough value.
Ferris Meadows.	2125	A lake created after gravel workings. Several grassland habitats surround the lake. Borough value

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Simplemarsh Farm.	2130	Important area for birds. Borough value.
Fan Grove.	2150	Ancient semi-natural woodland habitat. Borough value.
River Thames – Elmbridge.	2310	Riparian habitat. Regional value due in part to the importance of the River Thames to migratory fish.
Hilda May Lake.	2345	A wetland nature reserve with two mesotrophic lakes, important for wildfowl, and a pond with associated ditch. Borough value.
Wey Navigation (including Addlestone Mill Pond).	2380	Primarily riparian habitat. Borough value.
River Wey – Elmbridge.	2395	Primarily riparian habitat. Borough value.
Moor Lane Nature Reserve.	2500	Selected for its diverse wetland habitat. Species recorded on the site include small water-pepper & whorled water-milfoil as well as lesser water parsnip & thread-leaved water crowfoot (scarce in Surrey). Regional value.

Appendix Table 3: Designated Nature Conservation Sites within 2.5 km of the Channel Section 3 and Desborough Cut site

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Statutory Sites		
South West London Water bodies (SWLW), SPA and Ramsar site.	1580	A series of reservoirs and former gravel pits supporting a range of man-made and semi-natural open water habitats. These sites provide important feeding and roosting sites for wintering populations of gadwall and shoveler due to the numbers of European importance that occur. International and European value.
Dumsey Meadow SSSI.	0	An unimproved neutral grassland habitat that is now rare in south east England. National value.

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Thorpe Park No. 1 Gravel Pit SSSI.	1580	A former gravel pit now supporting open water, scrub and woodland habitats. This SSSI is designated for the nationally important numbers of gadwall it supports in winter. National value. Note that this entire site is also part of the SWLW SPA and Ramsar site.
Chertsey Meads LNR.	45	A remnant floodplain meadow habitat with rich floral lime-loving assemblages. Borough value.
Non-statutory Sites (SNCI)		
River Thames (and towpath) Spelthorne.	0	This Section of River Thames is within the top 10per cent of UK watercourses for macroinvertebrate diversity. Supports a range of NERC Priority species including eel, salmon, sea trout, depressed river mussel and otter. Regional value.
Shepperton Quarry.	0	Two large water bodies important for overwintering wildfowl. Borough value.
Sheepwalk Lake.	0	Selected as an important wetland supporting bird assemblages of county importance for both wintering and summer breeding birds. Borough value.
Littleton Lake.	0	Approximately 30 year old gravel working with mature stands of willow and scrub around lake. Borough value.
Ferris Meadows.	0	A lake created after gravel workings. Several grassland habitats surround the lake. Borough value
Charlton Quarry.	0	Eutrophic lake with grass margins and numerous willows. Broadleaved tree species have been planted. Borough value.
River Thames Elmbridge.	20	Riparian habitat. Regional value
River Thames – Runnymede.	25	Primarily riparian habitat. Regional value due in part to the importance of the River Thames to migratory fish.
Chertsey Meads.	45	Calcareous grassland habitat. Borough value.
Desborough Island.	45	Semi-improved neutral grassland habitat. Borough value.

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
Chertsey Water Works – Well Field.	325	Semi-improved neutral grassland habitat. Borough value.
River Wey – Elmbridge.	370	Primarily riparian habitat. Borough value.
Wey Navigation (including Addlestone Mill Pond).	405	Primarily riparian habitat. Borough value.
Chertsey Bourne at Chertsey Meads.	600	Primarily riparian and open water habitats. Borough value
Laleham Burway Golf Course.	690	Small pockets of semi-improved & unimproved grassland within an amenity grassland dominated golf course. Borough value.
Queen Mary Reservoir.	780	Selected for its importance to wildfowl and visiting seabirds. The site lies in an important position close to the South West London SPA/Ramsar and adjacent to the West of Queen Mary Reservoir SNCI. Regional value.
River Ash SNCI: Splash Meadow to Gaston Bridge.	870	This stretch of the River Ash supports the NERC Priority Species, European eel. The river is a good example of ‘natural river channel’ with a good pool and riffle system. Borough value.
River Ash: Splash Meadow.	900	This stretch of the River Ash supports the NERC priority species, European eel. Extensive sedge beds are present including the NVC communities S5, S6, S7 and S14. Borough value.
Littleton Lake – Shepperton Green Reservoir.	900	The lake supports diverse marginal vegetation with flat-stalked pondweed <i>Potamogeton friesii</i> recorded. It supports wetland habitats including NVC S6 and S7. It has also been reported as a refuge for wintering wildfowl including shoveler. Borough value.
Abbey Lake Complex.	996	Primarily open water habitats. Borough value.
Woburn Park.	1065	Primarily riparian habitat. Borough value.
River Ash: Shepperton Green.	1085	This stretch of the River Ash supports the NERC priority species European eel and three nationally scarce species; fringed water-lily, intermediate water-starwort & yellow water-lily. Regional value.
Pannells Farm.	1525	Wet grassland and pond habitats. Borough value.

Designated Site Name	Distance from Channel Section (m) (approx.)	Reasons for Notification and Ecological Value
West of Queen Mary Reservoir.	1590	Selected for its importance to wildfowl and visiting seabirds. The site is adjacent to Queen Mary Reservoir. Borough value.
Penton Hook Island.	1590	Selected for the diversity of wetland habitats supporting the nationally scarce round fruited rush & the Surrey scarce meadow crane's-bill. Regional value.
River Ash: Gaston Bridge to Watersplash Farm.	1660	This stretch of the River Ash supports the NERC Priority Species, European eel. The river is a good example of a 'natural river channel' with a good pool and riffle system. Borough value.
Simplemarsh Farm.	1940	Important area for birds. Borough value
The Heath.	1990	Primarily semi-natural broad leaved woodland habitat. Borough value.
Ashford Plant.	1995	A group of eutrophic lakes with steep sides and surrounded by willows and other broadleaved trees. Borough value.
Chertsey Bourne at Abbey Lake Complex.	2410	Primarily riparian and open water habitats. Borough value.

Appendix Table 4: Designated Nature Conservation Sites within 1 km of the Weir Locations

Designated Site Name	Distance from Survey area (approx.)	Reasons for Notification and integral value
TEDDINGTON		
Statutory Sites		
Ham Lands LNR	27m North	Urban Fringe. Unique mosaic of different vegetation types attracting many butterfly and bird species, and a diverse floral assemblage. Borough value
Non-statutory Sites (SNCI)		
River Thames and Tidal Tributaries	0m (within the survey area)	The Thames, London's most famous natural feature, is home to many fish and birds, creating a wildlife corridor running right across the capital. Regional value
Ham Lands	29m North	An attractive area of scrub and grassland beside the River Thames, well known for its remarkably diverse plant life. See LNR reasons for

Designated Site Name	Distance from Survey area (approx.)	Reasons for Notification and integral value
		notification. Borough value
Churchyard of St Mary with St Alban, Teddington	211m South West	An attractive churchyard with colourful, flowery grassland and some large trees. Borough value
Royal Park Gate Open Space	519m South East	A public park next to the River Thames and continuing northwards as Ham Lands. Borough value
Cassel Hospital	647m East	Pleasant hospital grounds, with lawns of acid grassland, a fringe of woodland and an old walled garden. Borough value
Ham Common West	840m North East	An area of short acid grassland with an attractive pond. Borough value
The Copse at Hampton Wick and Normansfield Hospital	973m South	A wooded nature reserve and the landscaped grounds of a former hospital. Borough value
The Copse, Holly Hedge Field and Ham Avenues	997m North East	A flowery meadow, a stand of ancient oaks and an historic avenue of lime trees combine to provide habitat for a wealth of animals and plants. Borough value
MOLESEY		
Statutory Sites		
Bushy Park and Home Park SSSI	200m North	Bushy Park and Home Park SSSI is a nationally important site by reason of the following biological features of special interest: acid grassland; veteran trees; assemblages of wood and fungal feeding (saproxylic) invertebrates. National value (ID133)
Non-statutory Sites (SNCI)		
River Thames and Tidal Tributaries	0m (within the survey area)	The Thames, London's most famous natural feature, is home to many fish and birds, creating a wildlife corridor running right across the capital. Regional value
River Thames - Elmbridge	0m (within the survey area)	River habitat within the London Borough Elmbridge (see River Thames for description). This section is Borough value, although it is of greater value in combination with the wider Thames.
Hurst Park (incl. Hurst Minor and Hurst Meadows)	131m West	Selected for its species rich grassland supporting great burnet <i>Sanguisorba officinalis</i> (VC17 Rare) & hoary cinquefoil <i>Potentilla argentea</i> (RDB - IUCN (2001) - Lower Risk - Near Threatened). Borough value
Bushy Park and Home Park	200m North	This area provides an extensive and varied open space on the edge of London. The parks contain several nationally scarce plants, as well as a variety of wetlands and some fine old trees. National value (also designated as a SSSI)

Designated Site Name	Distance from Survey area (approx.)	Reasons for Notification and integral value
Hampton Court House Grounds	312m North East	An attractive landscaped garden centred on a pond. Borough value
SUNBURY		
Statutory Sites		
South West London Waterbodies Ramsar and SPA, and Knight & Bessborough Reservoirs SSSI	811m East	Lakes support internationally important numbers of gadwall and shoveler. Knight and Bessborough reservoirs are of national importance for wintering shoveler. National value (ID135 & ID133)
Non-statutory Sites (SNCI)		
River Thames - Elmbridge	0m (within the survey area)	River habitat (see River Thames) This section of the Thames is of Borough value, although it is of greater value in combination with the wider Thames.
River Thames (and towpath) Spelthorne	19m North	Section of River Thames which falls within top 10% of UK watercourses due to macroinvertebrate diversity. Supports range of NERC Priority species including European eel <i>Anguilla anguilla</i> , Atlantic salmon <i>Salmo salar</i> , sea trout <i>Salmo trutta</i> , depressed river mussel <i>Pseudanodonta complanata</i> and otter <i>Lutra lutra</i> . Includes fringing habitats. Regional value
Sunbury Park	86m North	Selected for its wood pasture habitat including veteran trees (at least 8 trees on site classed as veteran). Site supports 7 Red Data Book and 12 notable invertebrate species. Site also serves as Accessible Natural Greenspace within an urban area. At least Borough value
Molesey Reservoir	673m North East	Lake habitat. Borough value
River Ash: Gaston Bridge to Watersplash Farm	996m west	This stretch of river supports the NERC Priority Species, European eel. The river is a good example of 'natural river channel' with a good pool and riffle system. Borough value

Appendix Table 5: Designated Nature Conservation Sites within 2.5 km of Ham Lands

Designated Site Name	Distance from flood storage area (m) (approx.)	Reasons for Notification and Ecological Value
Statutory Sites		
Ham Lands LNR	0	Ham Lands is an extensive area of grassland and scrub with abundant wildlife. The site was once extensively excavated for gravel, then back-filled over time with a variety of soil types from all over London. This has created a unique mosaic of different

Designated Site Name	Distance from flood storage area (m) (approx.)	Reasons for Notification and Ecological Value
		vegetation types attracting many butterfly and bird species. In spring, the site is full of hawthorn blossom and in the summer, the meadows support hundreds of wild flowers. Borough value.
Ham Common LNR	1,600	Birch and oak woodland with wet hollows and acid grassland. Notable species of sedge, vascular plants, butterfly, birds and owls are present. Borough value.
Richmond Park National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI)	1,900	Richmond Park has been managed as a royal deer park since the seventeenth century, producing a range of habitats of value to wildlife. In particular, Richmond Park is of importance for its diverse deadwood beetle fauna associated with the ancient trees found throughout the parkland. In addition the Park supports the most extensive area of dry acid grassland in Greater London. National value.
Bushy Park and Home Park SSSI	2,200	Nationally important for saproxylic (dead and decaying wood associated) invertebrate assemblage, population of veteran trees and acid grassland communities. National value.
Non-statutory Sites (SNCI)		
River Thames and tidal tributaries	70	Regional value.
Petersham Lodge Wood and Ham House Meadows	300	Borough value.
Marble Hill Park and Orleans House Gardens	400	Local value.
The Copse, Holly Hedge Field and Ham Avenues	600	Borough value.
Twickenham Junction Rough	800	Local value.
River Crane at St Margaret's (Richmond side)	860	Borough value.
Moor Mead Recreation Ground	870	Local value.
Strawberry Hill Golf Course	920	Borough value.
Ham Common west	960	Local value.
Churchyard of St Mary with St Alban, Teddington	1160	Local value.
Teddington Cemetery	1190	Local value.
Cassel Hospital	1210	Local value.
Petersham Meadows	1280	Borough value.

Designated Site Name	Distance from flood storage area (m) (approx.)	Reasons for Notification and Ecological Value
Richmond Park and associated areas	1300	Regional value.
Duke of Northumberland's River south of Kneller Road	1430	Borough value.
Crane Corridor	1440	Regional value.
River Crane at St Margarets	1460	Borough value.
Royal Park Gate Open Space	1480	Local value.
Terrace Field and Terrace Garden	1730	Local value.
Duke of Northumberland's River north of Kneller Road	1740	Borough value.
Fulwell and Twickenham Golf Courses	1880	Borough value.
Twickenham Road Meadow	1950	Local value.
Mogden Sewage Works	2030	Borough value.
The Copse at Hampton Wick and Normansfield Hospital	2110	Local value.
Bushy Park and Home Park	2110	Regional value.
Twickenham Cemetery	2440	Local value.

Appendix Table 6: The ecological value of the habitats by study area *

	Channel Section 1	Channel Section 2	Channel Section 3 (including Desborough Cut)	Sunbury Weir	Molesey Weir	Teddington Weir	Ham Lands
Standing water and rivers.	Zone of influence (excluding designated sites).	Zone of influence (excluding designated sites).	Zone of influence (excluding designated sites).	Local value.	Of value within the zone of influence.	Local value.	N/A.
Broadleaved and mixed semi-natural woodland.	Zone of influence.	Zone of influence.	Zone of influence.	Local value.	Of value within the zone of influence.	Local value.	Borough value.
Scattered and dense scrub.	Zone of influence.	Zone of influence.	Zone of influence.	Local value.	N/A.	N/A.	Borough value.
Species rich hedges.	Zone of influence.	N/A.	N/A.	N/A.	N/A.	N/A.	N/A.
Neutral semi-improved grassland.	Zone of influence.	Zone of influence (excluding designated sites), with the exception of the grassland south of Thorpe Hay Meadow which could be of at least borough value.	Zone of influence.	Local value.	Zone of influence, with the exception of Hurst Park which could be up to borough value.	Local value.	Borough value.
Broadleaved parkland.	Zone of influence.	Zone of influence.	Zone of influence.	N/A.	N/A.	N/A.	Borough value.
Ephemeral / short perennial habitat.	No higher than local value.	No higher than local value.	No higher than local value.	N/A.	N/A.	N/A.	N/A.
Scattered. Trees	Negligible.	Negligible.	Negligible.	N/A.	N/A.	Local value.	N/A.

	Channel Section 1	Channel Section 2	Channel Section 3 (including Desborough Cut)	Sunbury Weir	Molesey Weir	Teddington Weir	Ham Lands
Flush and spring – acid/neutral grassland.	N/A.	N/A.	N/A.	N/A.	N/A.	N/A.	Borough value.

- *Only habitats assessed to be more than negligible value within the study area included. For information on how the habitat value has been assessed see Section 2.4 of the Flood Relief Channel PEA.

Appendix Table 7: Summary of the ecological value of the principle protected and notable species within the study area (for information on how the ecological value has been assessed see Section 2.4 of the Flood Relief Channel PEA).

Species	Channel Section 1	Channel Section 2	Channel Section 3 (including Desborough Cut)	Sunbury Weir	Molesey Weir	Teddington Weir	Ham Lands
Bats.	No more than local value.	No more than local value.	No more than local value.	No more than local value.	No more than local value.	Local value.	Local value.
Great Crested Newts.	Local value.	Local value.	Local value.	Unlikely to be present.	Unlikely to be present.	Unlikely to be present.	Unlikely to be present.
Reptiles.	No more than local value.	No more than local value.	No more than local value.	Local value.	Zone of influence.	Local value.	Local value.
Badgers.	Local value.	Local value.	Local value.	Local value.	Local value.	Local value.	Local value.
Birds.	The areas that are not already designated, or likely to be SPA supporting sites, are	The areas that are not already designated, or likely to be SPA supporting sites, are of local	The areas not already designated, or likely to be SPA supporting sites, are of local value.	Local value.	Local value.	Local value.	Local value.

Species	Channel Section 1	Channel Section 2	Channel Section 3 (including Desborough Cut)	Sunbury Weir	Molesey Weir	Teddington Weir	Ham Lands
	of local value.	value.					
Otters.	Zone of influence.	Zone of influence.	Zone of influence.	Local value.	Zone of influence.	Local value.	Zone of influence.
Water Voles.	Zone of influence.	Zone of influence.	Zone of influence, except Pool End Ditch which is considered to be of local value.	Negligible.	Negligible.	No value.	Unlikely to be present.
Terrestrial Invertebrates.	Local value.	Borough value.	Local value.	Zone of influence.	Negligible.	Zone of influence.	Local value.
Fish.	Regional.	Regional.	Regional.	At least local.	At least local.	Up to borough.	N/A.
Zooplankton.	Local (lakes).	Local (lakes).	Local (lakes).	Unknown* anticipated to be negligible.	Unknown* anticipated to be negligible.	Unknown* anticipated to be negligible.	N/A.
Macro-invertebrates.	Lakes - Local, except Wraysbury 1 south and Wraysbury 2 North which are considered to be of regional value. River Thames - no greater than	Lakes - Local, except Abbey Lake which is considered to be of borough value. Rivers – local.	Local, except Littleton North which is considered to be of borough value. River Thames – unknown as no specific data but anticipated to be	Borough.	Borough.	Borough.	N/A.

Species	Channel Section 1	Channel Section 2	Channel Section 3 (including Desborough Cut)	Sunbury Weir	Molesey Weir	Teddington Weir	Ham Lands
	regional.		negligible to local to borough.				
Macrophytes.	Negligible, except Wraysbury 1, which is of national value and Datchet 3 South which is zone of influence.	Negligible, except Fleet, Manor, St Ann's and Abbey Lake which are of national value.	Negligible, except Old Littleton Lane and Sheepwalk East which are considered to be zone of influence and Littleton East which is considered to be of local value.	Unknown, anticipate to be zone of influence.**	Unknown, anticipated to be zone of influence.**	Unknown, anticipated to be zone of influence.*	N/A

* No survey data has been provided for the River Thames, however, a comparison of zooplankton among rivers, reservoirs and natural lake systems suggests that zooplankton community development and growth are lower in rivers, which can be limited by flows and high turbidity (Wetzel, 2001); hence a negligible conservation value is assigned.

**Based on limited sampling for macrophytes within the main River Thames, therefore as a precautionary measure a zone of Influence is derived.

Appendix Table 8: Common and Latin names of species mentioned

Common Name	Latin Name
Ash	<i>Fraxinus excelsior</i>
Asiatic clam	<i>Corbicula flumirea</i>
Atlantic salmon	<i>Salmo salar</i>
Australian swamp stonecrop	<i>Crassula helmsii</i>
Barbel	<i>Barbus barbus</i>
Barn owl	<i>Tyto alba</i>
Bittern	<i>Botaurus stellaris</i>
Black-necked grebe	<i>Podiceps nigricollis</i>
Bleak	<i>Alburnus alburnus</i>
Bloody-red mysid	<i>Hemimysis anomala</i>
Branched bur-reed	<i>Sparganium erectum</i>
Brent goose	<i>Branta bernicla</i>
Brook lamprey	<i>Lampetra planeri</i>
Brown/sea trout	<i>Salmo trutta</i>
Bullhead	<i>Cottus gobio</i>
-	<i>Ceriodaphnia setosa</i>
-	<i>Cheliocorophium curvispinum</i>
Cetti's warbler	<i>Cettia cetti</i>
Chinese mitten crab	<i>Eriocheir sinensis</i>
Chub	<i>Squalius Cephalus</i>
Cinnabar	<i>Tyria jacobaeae</i>
Common alder	<i>Alnus glutinosa</i>
Common bream	<i>Abramis brama</i>
Common carp	<i>Cyprinus carpio</i>
Common pipistrelle	<i>Pipistrellus pipistrellus</i>
Common starling	<i>Sturnus vulgaris</i>
Crucian carp	<i>Carassius carassius</i>
Dace	<i>Leuciscus leuciscus</i>
Daubenton's bat	<i>Myotis daubentonii</i>
Demon shrimp	<i>Dikerogammarus haemobaphes</i>
Dunnock	<i>Prunella modularis</i>
European eel	<i>Anguilla anguilla</i>
Fieldfare	<i>Turdus pilaris</i>
Floating pennywort	<i>Hydrocotyle ranunculoides</i>
Frogbit	<i>Hydrocharis morsus-ranae</i>

Common Name	Latin Name
Gadwall	<i>Anus strepera</i>
Great crested newt	<i>Triturus cristatus</i>
Goldfish	<i>Carassius auratus</i>
Grass snakes	<i>Natrix natrix</i>
Grasshopper warbler	<i>Locustella naevia</i>
Great tassel stonewort	<i>Tolypella prolifera</i>
Green sandpiper	<i>Tringa ochropus</i>
Greenshank	<i>Tringa nebularia</i>
Grey dagger	<i>Acronicta psi</i>
Gudgeon	<i>Gobio gobio</i>
Hawthorn	<i>Crataegus monogyna</i>
Himalayan balsam	<i>Impatiens glandulifera</i>
Hobby	<i>Falco subbuteo</i>
House sparrow	<i>Passer domesticus</i>
Japanese knotweed	<i>Fallopia japonica</i>
Kestrel	<i>Falco tinnunculus</i>
Kingfisher	<i>Alcedo atthis</i>
Leisler's bat	<i>Nyctalus leisleri</i>
Little ringed plover	<i>Charadrius dubius</i>
Merlin	<i>Falco columbarius</i>
Minnow	<i>Phoxinus phoxinus</i>
Mirror carp	<i>Cyprinus carpio</i>
Natterer's bat	<i>Myotis nattereri</i>
Nine-spined stickleback	<i>Pungitius pungitius</i>
Pointed stonewort (var)	<i>Nitella mucronata var. gracillima</i>
Noctule bat	<i>Nyctalus noctula</i>
Northern river crangonyctid	<i>Crangonyx psuedogracilis</i>
Nuttall's pondweed	<i>Elodea nuttallii</i>
Otters	<i>Lutrinae</i>
-	<i>Paralona pigra (Chydoridae)</i>
Perch	<i>Perca fluviatilis</i>
-	<i>Physella acuta</i>
Pike	<i>Esox Lucius</i>
Pikeperch / zander	<i>Sander lucioperca</i>
Pointed stonewort	<i>Nitella mucronata</i>
Quagga mussel	<i>Dreissena rostriformis bugensis</i>

Common Name	Latin Name
Rainbow trout	<i>Oncorhynchus mykiss</i>
Red-eared terrapin	<i>Trachemys scripta</i>
Redwing	<i>Turdus iliacus</i>
Reed bunting	<i>Emberiza schoeniclus</i>
Reedmace	<i>Typha spp</i>
River lamprey	<i>Lampetra fluviatilis</i>
Roach (and hybrids)	<i>Rutilus rutilus</i>
Round-fruited rush	<i>Juncus compressus</i>
Rudd	<i>Scardinius erythrophthalmus</i>
Ruffe	<i>Gymnocephalus cernua</i>
Scaup	<i>Aythya marila</i>
Sea lamprey	<i>Petromyzon marinus</i>
Sessile oak	<i>Quercus robur and Q. petraea</i>
Shaded broad-bar	<i>Scotopteryx chenopodiata</i>
Shoveler	<i>Anus clypeata</i>
Sideswimmer	<i>Gammarus tigrinus</i>
Signal crayfish	<i>Pacifastacus leniusculus</i>
Silver bream	<i>Blicca bjoerkna</i>
Silver carp	<i>Hypophthalmichthys molitrix</i>
Slavonian grebe	<i>Podiceps auritus</i>
Small heath	<i>Coenonympha pamphilus</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
Stag beetle	<i>Lucanus cervus</i>
Starry stonewort	<i>Nitellopsis obtuse</i>
Sycamore	<i>Acer pseudoplatanus</i>
Tench	<i>Tinca tinca</i>
Three-spined stickleback	<i>Gasterosteus aculeatus</i>
Tree pipit	<i>Anthus trivialis</i>
Violet click beetle	<i>Limoniscus violaceus</i>
Wall	<i>Lasiommata megera</i>
Water fern	<i>Azolla</i>
Water voles	<i>Arvicola amphibious</i>
Willow tree species	<i>Salix spp</i>
Yellow hammer	<i>Emberiza citronella</i>
Yellow wagtail	<i>Motacilla flava,</i>
Zebra mussel	<i>Dreissena polymorpha</i>