

Appendix 12.6 Rationale for evaluation of the importance of each avian receptor

(See 12.2.64 and Table 12.2 of the ES)

Introduction

Avian receptors can include seasonal populations of a species, annual populations of species, and assemblages of a number of different species

Population estimates of the species below within the UK are taken from *Population Estimates of the Birds in Great Britain and the United Kingdom* (Baker *et.al.* 2006). Estimates of the size of bird species populations within Gloucestershire have been taken from The Gloucestershire Bird Report 2009 (Evans, 2010).

Evaluation of Importance of each avian receptor

Large gulls

Due to the difficulties of separating **herring gull** and **lesser black-backed gulls** at height and in sub-adult plumage, many gulls were simply recorded as 'large gull'. The 'large gull' category refers to all unidentified large gulls and all herring gull and lesser black-backed gulls combined.

The movement of large gulls within the survey area was complex, with a resident breeding population making regular flights around the Sharpness Docks and beyond, a migratory population occurring in a protracted spring migration up the Severn Estuary, and an overwintering population in the Severn Estuary making flights up and down the estuary. To assist in the nature conservation evaluation of herring gull and lesser black-backed gull, the data has been summarised into three figures. The peak number of occupied nests within the breeding colony in the survey area was 40. The peak number of large gull flights recorded over a two hour survey period during spring migration was 443. The peak number of recorded flights within a two hour survey period during the winter period was 655.

The number of breeding herring gull and lesser black-back gulls in Britain has been estimated as 241,570 pairs (131,469 & 110,101 respectively) (Baker *et.al.* 2006). The Gloucestershire Bird Report 2009 classifies herring gull as an uncommon breeding resident, and lesser black-backed gull as a fairly common breeding resident. Records were of 3,311 breeding pairs within the county (789 herring gull + 2,522 lesser black-backed gull). The estimate of 40 breeding pairs within the survey area represents 0.2% of the British breeding population, and 1.2% of the Gloucestershire breeding population. The breeding population is considered to be of medium importance being more than 1 % of the Gloucestershire population.

Gloucestershire Bird Report contains a record of peak spring migration counts of herring gull and lesser black-backed gull up the Severn Estuary of 1,200, and 3,000 respectively. These counts were from WWT Slimbridge. The survey duration for these counts is not known, and so direct comparisons with the peak spring count from the survey area of 443 are not possible. However, it is clear that the Severn Estuary, and hence our survey area which falls within and adjacent to the Severn Estuary, is a key migration corridor for large gulls within the county and the wider Severn Estuary region. This importance at a county level would indicate the migratory population of large gulls within the survey area is of medium importance.

The wintering population of herring gull and lesser blacked gull in Britain is estimated to be 437,605 (60,830 and 376,775, respectively) (Baker et.al. 2006). Both are categorised as common winter visitors to Gloucestershire (Evans, 2010) with populations of 1,000-9,999. The comparison of 655 flights through the site over a two hour period is not directly comparable with the estimate of overwintering birds at a national or county level. However, it is clear that the Severn Estuary, and hence our survey area which falls within and adjacent to the Severn Estuary, is a key overwintering area for large gulls within the county and the wider Severn Estuary region. This importance at a county level would indicate the overwintering population of large gulls within the survey area is of medium importance.

Birds of Prey

A maximum of two **peregrines** were observed at the site during the survey period. The pair nested successfully within the survey area. The maximum number of peregrines in Britain has been estimated at 1,167 (Baker et. al. 2006). The Gloucestershire Bird Report 2009 classifies this species as an uncommon winter visitor and scarce breeder. The report goes on to estimate a minimum of 8 breeding pairs within the county.

The two birds recorded at the site represents 0.2% of the British population, and 12.5% of the Gloucestershire breeding population. The population of peregrine within the survey area can therefore be considered to be of medium importance being more than 1% of the Gloucestershire population.

A single marsh harrier was recorded only once during the survey period on the 24th May 2010. The British population of marsh harrier is estimated at 201 (Baker et. al. 2006). The Gloucestershire Bird report 2009 classifies this species as a scarce to uncommon passage migrant, with between 1-99 records per year. In 2009, 7 marsh harriers were recorded on passage through the county.

The single record of marsh harrier represents 0.5% of the British population, and 14.3% of the Gloucestershire passage population. Although more than 1% of the county population was recorded, this species was not regularly recorded within the survey area, and as it is therefore only considered to be of low importance.

A single migrating short-eared owl was seen on the 12th October 2010. The British population of this species is estimated at 1,000-3,500 pairs (2,000-7,000 individuals). The Gloucestershire Bird Report classifies this as a scarce passage migrant, with an annual total of 1-9 birds.

This single record of short-eared owl represents 0.01% to 0.05% of the British population, and 11% to 100% of the Gloucestershire passage population. Although more than 1% of the county population was recorded, this species was not regularly recorded within the survey area, and as it is therefore only considered to be of low importance.

Waders

The highest count of lapwing recorded during the survey period was of 66, recorded in flight through the survey area during a 2 hour VP survey on the 27th October 2010. The highest count recorded during the waterbird surveys was of 44 birds roosting on intertidal habitat to the north of Sharpness Island in November 2010.

Lapwing is included on the Red-List of Birds of Conservation Concern (see Appendix 12.5) due to a decline in their breeding population. However, inclusion of a species in lists of declining species is not itself a sufficient criterion for assigning a level of value to the species concerned (IEEM 2006).

Although the site and survey area do fall within the typical breeding range of Lapwing (Gibbons et. .al. 1994), no lapwing were recorded within the survey area during the key breeding months of April –

June. As such it is concluded that the site and survey area are of most importance to this species during the non-breeding period.

Baker et.al. (2006) estimates the population of overwintering lapwing in Britain to be between 1.5 and 2 million birds. The population of lapwing at the site constitutes between 0.004% and 0.003% of the overwintering UK population.

The Severn Estuary is of value primarily as a passage, and overwintering site for this species. The overwintering Severn Estuary population has been estimated as 11,073. The population of lapwing at the site constitutes 0.6% of the overwintering Severn Estuary population.

Gloucestershire Bird Report 2010 categorises lapwing as a fairly common to common winter visitor and passage migrant. Within this publication is a summary of monthly lapwing counts from various sites around the county. The largest count of lapwing from the main sites in Gloucestershire was 10,681 birds during December 2009. Only the primary wetlands within the county will have been counted for these surveys. Lapwings will spend much of their time on farmland well away from wetlands, and so the figure in Gloucestershire Bird Report 2009 is likely to be an underestimate of the entire Gloucestershire population. The count of 66 lapwing recorded within the survey area during October 2010 constitutes 0.6% of the estimated Gloucestershire population.

The population of lapwing overwintering within the survey area is therefore considered to be of low importance being less than 1% of the county population.

The population of dunlin at the site peaked at 140 birds during a VP survey in November 2010. Dunlin is included on the Red-list of Birds of Conservation Concern due to its recent breeding population decline. The British overwintering population has been estimated at 555,800 birds (Baker et. al. 2006).

The Severn Estuary population has been estimated at 20,358 (Natural England). Gloucestershire Bird report 2009 classifies dunlin as a common winter visitor, with a population of 1,000-9,999 birds.

The maximum count of dunlin recorded at the site represents 0.03% of the British population, 0.7% of the Severn Estuary population, and between 1.4% and 14% of the Gloucestershire population. The population of dunlin within the survey area is therefore considered to be of medium importance, being more than 1% of the county population, and less than 1% of the British population.

The maximum number of whimbrel recorded at the site was twenty-one in May 2010. This species is a passage migrant, and is therefore mainly recorded in the Severn Estuary on spring and autumn migration. All whimbrel recorded were during spring migration.

Whimbrel is included on the Red-List of Birds of Conservation Concern due to a decline in their breeding population. The maximum estimate of numbers in Britain for this species is 3,530 during spring migration (Baker et. al. 2006). Gloucestershire Bird report 2009 classifies whimbrel as a fairly common spring migrant with between 100-999 birds.

The population of spring migratory whimbrel recorded at the site represents 0.6% of the British population and between 2.1% and 21% of the Gloucestershire population. The population of whimbrel within the survey area is therefore considered to be of medium importance.

The maximum number of curlew recorded with the survey area was 8 during a wintering bird survey in October 2010. Curlew is included on the Amber-list of Birds of conservation concern due to its declining breeding population.

The overwintering estimate of curlew in Britain is 147,100 (Baker et. al. 2006). The estimate of overwintering curlew in the Severn Estuary is 2750 (Natural England data). Gloucestershire Bird report 2009 classifies this species as a fairly common passage migrant and winter visitor with between 100-

999 birds. It gives a maximum count of 820 birds from the main sites within the county during August 2009.

The population of overwintering curlew recorded within the survey area represents 0.005% of the British population, and 0.98% of the Gloucestershire population. The population of whimbrel within the survey area is considered to be of low importance.

A maximum of 116 Redshank were recorded during a waterbird survey on the 15th September 2010. Redshank is included on the Amber-list of Birds of conservation concern due to its declining breeding population.

The overwintering estimate of redshank in Britain is 116,100 (Baker et. al. 2006). The estimate of overwintering curlew in the Severn Estuary is 2082 (Natural England data). Gloucestershire Bird report 2009 classifies this species as an uncommon passage migrant and winter visitor with between 10-99 birds, with a peak count of 80 birds recorded at WWT Slimbridge.

The population of redshank recorded at the site represents 0.1% of the British population, 5.6% of the Severn Estuary population and is more than the entire estimated Gloucestershire population. The population of redshank within the survey area is considered to be of medium importance.

Wildfowl

Mallard were present in the survey area throughout the year. A maximum of 62 birds were seen during a winter bird survey. Mallard are an Amber-list species due to their declining wintering population in the UK. Although this species was observed throughout the survey period, their numbers increased during autumn and winter, probably due to immigration of birds that bred elsewhere in Britain and Europe. This species was recorded on intertidal habitat adjacent to Sharpness Island, and on freshwater habitats within Sharpness Docks.

The number of overwintering mallard in Britain is estimated at 352,000 (Baker et. al. 2006). The estimate of mallard within the Severn Estuary is 3,307 (Natural England data) Gloucestershire Bird Report 2009 classifies mallard as a common resident breeder and winter visitor, with a maximum count from the main sites in Gloucestershire of 2,599 in December 2009.

The population of overwintering mallard recorded at the site represents 0.2% of the British population, 1.9% of the Severn Estuary population, and 2.4% of the Gloucestershire population. The population of mallard within the survey area is considered to be of medium importance.

A maximum of 11 shelduck were recorded on 28th May 2010. This species is included on the Amber-list of conservation concern due to the high proportion of European birds wintering in the UK. Although present throughout the year, the highest numbers of this species were recorded in spring and summer.

The number of breeding shelduck in Britain is estimated at 10,600 (Baker et. al. 2006). The estimate of shelduck within the Severn Estuary is 3,225 (Natural England data) Gloucestershire Bird Report 2009 classifies shelduck as a fairly common resident species, with a maximum count from the main sites in Gloucestershire of 356 in February 2009.

The population of shelduck at the site represents 0.1% of the British population, 0.34% of the Severn Estuary population, and 3.1% of the Gloucestershire population. The population of shelduck is considered to be of medium importance.

A maximum of 15 greylag goose were seen on the 24th May 2010. Due to the time of year and the geographical location, these are almost certainly birds from the resident feral population in the Severn Estuary area, rather than truly wild migratory birds which are rare winter visitors to Gloucestershire (Evans, 2010). As such, the population of greylag goose are considered to be of negligible importance.

A single whooper swan was seen on 20th October 2010.

The number of wintering whooper swan in Britain is estimated at 5,720 (Baker et. al. 2006). Gloucestershire Bird Report 2009 classifies whooper swan as scarce winter visitor to the county, with a maximum count of 4 in late-winter, 2009.

The population of whooper swan at the site represents 0.02% of the British population, and 25% of the Gloucestershire population. Although this could be considered to be of medium importance, this species was not seen regularly, and is therefore only considered to be of low importance.

Wigeon were recorded within the survey area throughout the winter, but numbers peaked in February 2011 with 160 birds recorded on intertidal habitat. This species is included on the Amber-list of conservation concern due to the high proportion of European birds wintering in the UK.

The number of wintering wigeon in Britain is estimated at 406,000 (Baker et. al. 2006). The population in the Severn Estuary is estimated at 7956 (Natural England data). Gloucestershire Bird Report 2009 classifies wigeon as common winter visitor to the county, with a maximum count from the main sites in Gloucestershire of 9,205 in late-winter, 2009.

The population of wigeon at the site represents 0.04% of the British population, 2% of the Severn Estuary population, and 1.7% of the Gloucestershire population. The population of wigeon within the survey area is considered to be of medium importance.

A maximum of three pintail were recorded within the survey area on 12th November 2010, and this species was only recorded twice during the 12 months of survey. This species is included on the Amber-list of conservation concern due to its small UK breeding population and high proportion of European birds wintering in the UK.

The number of wintering pintail in Britain is estimated at 27,900 (Baker et. al. 2006). The population in the Severn Estuary is estimated at 819 (Natural England data). Gloucestershire Bird Report 2009 classifies pintail as fairly common winter visitor to the county, with a maximum count from the main sites in Gloucestershire of 680 in February 2009.

The population of pintail at the site represents 0.01% of the British population, 0.37% of the Severn Estuary population, and 0.44% of the Gloucestershire population. Because of the small proportion of national and county population recorded, and the infrequency of records of this species, the population of pintail within the survey area is considered to be of negligible importance.

Teal were recorded at the site infrequently during winter, with a maximum of three in December 2010 from VP 1. This species is included on the Amber-list of conservation concern due to the high proportion of European birds wintering in the UK. The number of wintering teal in Britain is estimated at 192,000 (Baker et. al. 2006). The population in the Severn Estuary is estimated at 3,949 (Natural England data). Gloucestershire Bird Report 2009 classifies teal as common winter visitor to the county, with a maximum count from the main sites in Gloucestershire of 4,787 in January 2009.

The three teal recorded at the site represents 0.002% of the British population, 0.08% of the Severn Estuary population, and 0.06% of the Gloucestershire population. Because of the small proportion of national and county population recorded, and the infrequency of records of this species, the population of teal within the survey area is considered to be of negligible importance.

A maximum of five tufted duck were recorded infrequently roosting on the dock during VP surveys in December 2010 and January 2011. This species is included on the Amber-list of conservation concern due to its European conservation status. The number of wintering tufted duck in Britain is estimated at 90,100 (Baker et. al. 2006). The population in the Severn Estuary is estimated at 571

(Natural England data). Gloucestershire Bird Report 2009 classifies tufted duck as a fairly common winter visitor to the county, with a maximum count of 1,903 from the main sites in Gloucestershire in December 2009.

The five tufted duck recorded at the site represents 0.006% of the British population, 0.09% of the Severn Estuary population, and 0.26% of the Gloucestershire population. Because of the small proportion of national and county population recorded, and the infrequency of records of this species, the population of tufted duck within the survey area is considered to be of negligible importance.

A maximum of 4 pochard were observed roosting on the docks during VP survey in December 2010. This species is included on the Amber-list of conservation concern due to its European conservation status, and declining wintering population. The number of wintering pochard in Britain is estimated at 59,500 (Baker et. al. 2006). The population in the Severn Estuary is estimated at 775 (Natural England data). Gloucestershire Bird Report 2009 classifies tufted duck as a common winter visitor to the county, with a maximum count of 1,001 from the main sites in Gloucestershire in January 2009.

The 4 pochard recorded at the site represents 0.007% of the British population, 0.52% of the Severn Estuary population, and 0.4% of the Gloucestershire population. Because of the small proportion of national and county population recorded, and the infrequency of records of this species, the population of pochard within the survey area is considered to be of negligible importance.

A single smew was recorded on the canal basin during surveys in January and February 2011. Smew is classified as a scarce to uncommon winter visitor to Gloucestershire (Evans, 2010). The population of smew within the survey area is assessed as being of low importance.

Terns

A maximum of two **common tern**, two **arctic tern**, and a single **black tern** were recorded at the site. The number of breeding pairs of common and arctic tern in Britain are 10,134 and 52,621 respectively (Baker et. al. 2006). Black tern is a passage migrant, and is only seen in Britain during spring and autumn migration.

Low numbers of terns have been recorded during surveys at the site. However numbers recorded from year to year are known to fluctuate as a result of factors such as weather patterns on their migrations route (often hundreds of kilometres away). Therefore this species may have been under-recorded. The Severn Estuary is known to be an important migration route for this group of birds (M. McGill, WWT, pers. comm.), with large flocks regularly recorded during spring and autumn migration. Because of these additional factors, the population of terns which pass through the survey area is considered to be of medium importance.

Non-target Raptors

Buzzard, kestrel and sparrowhawk have all been recorded at the site throughout the survey period. The maximum count of buzzard was five during a two hour survey in November 2010. A pair of kestrel are thought to have nested within the survey area. Sparrowhawk were recorded the least, being seen in approximately 6 of the 12 survey months. All three species are classified as fairly common breeding residents in Gloucestershire (Evans, 2010).

Kestrel is listed on the Amber-list of Birds of Conservation Concern due to its European conservation status (see Appendix 12.5). The number of kestrel in Britain is estimated at 35,400 pairs (Baker et. al. 2006). Gloucestershire Bird Report 2009 classifies kestrel as a fairly common resident with between with between 100-999 individuals. Being a notable species recorded breeding within the survey area, this species is considered to be of low importance.

Buzzard and sparrowhawk are widespread within the UK. Neither species was recorded breeding within the survey area. The survey area is considered to be of negligible importance for these species.

A single barn owl was recorded during nocturnal surveys in January and February 2011. No evidence of barn owls breeding within the survey area was recorded. Barn owl is considered to be an uncommon or scarce breeding resident in Gloucestershire (Evans, 2010). The survey area is considered to be of low importance for barn owl.

Others

The mosaic of farmland, woodland, industrial, freshwater and estuarine habitats within the survey area provide suitable habitat for a wide range of bird species to utilise at all stages of the year.

Of particular note was the passage of migratory passerines and pigeons recorded during autumn 2010. Visible migration of hundreds or thousands of passerines is a well documented phenomenon along the Severn Estuary coast, and generally occurs in the early morning in late September and October during periods of light winds immediately after periods of inclement weather. The assemblage of migratory passerines and pigeons has been assessed as being of medium importance.

Freshwater species occasionally recorded at the site included kingfisher, notable due to its inclusion on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), as well as more common species such as great crested grebe, coot, and moorhen. Kingfisher and great crested grebe are classified as an uncommon breeding resident in the county, Coot is classified as a fairly common breeding resident, moorhen as a common breeding resident. These species are widespread and common. As numbers recorded at the site are low compared to county estimates, and records were not regular, the assemblage of freshwater bird species has been assessed as being of negligible importance.

The mosaic of habitats around the site offer suitable nesting and foraging habitat for the assemblage of common breeding birds such as finches, warblers and tits. This assemblage is typical of this habitat. A number of species found at the site such as linnets, song thrush and spotted flycatcher, are listed on Birds of Conservation Concern. All these species are classified as common or abundant breeding species in Gloucestershire (Evans, 2010), and are widespread species in Britain and their presence alone does not indicate ecological value. The assemblage of common breeding birds is considered to be of low importance.

References

Baker, H., Stroud, D.A., Aebischer, N.J., Cranswick, P.A., Gregory, R.D., McSorley, C.A., Noble, D.G., Rehfisch, M.M. (2006). Population Estimates of the Birds in Great Britain and the United Kingdom. *British Birds* 99, January 2006, 25-44.

Evans, D. (2010). Gloucestershire Bird Report 2009. Gloucestershire Ornithological Coordinating Committee.

Gibbons, D.W., Reid, J.B., Chapman R.A., (1994). *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991*.

Institute of Ecology and Environmental Management (IEEM). (2006). *Guidelines for Ecological Impact Assessment in the United Kingdom*.

Natural England (no date). Severn Estuary Regulation 33 Advice. <http://www.naturalengland.org.uk/ourwork/marine/protectandmanage/mpa/severnestuaryreg33.aspx>