

## APPENDIX 10.12

### FIDDLER'S FERRY POWER STATION LAGOONS AND THE ADJACENT SECTION OF THE UPPER MERSEY ESTUARY

#### THE ORNITHOLOGICAL RECORDS OF MR KEITH MASSEY

#### 1.0 INTRODUCTION

- 1.1 The lagoons at Fiddler's Ferry Power Station and the adjacent salt-marsh and mudflats in the Mersey Estuary have been visited almost every day since 1977 by Mr. Keith Massey, an experienced ornithologist who works at the power station. Bird species and the numbers present have been recorded for the past 25 years from 1977 to the present time.
- 1.2 Although there are some limitations in these data, the historical records are extremely valuable, particularly as the power station lagoons and adjacent saltmarsh habitats are included in the Study Area and are part of the Upper Mersey Estuary SBI. The data are also of very significant value because they give a good indication of trends over a long period and they also cover a wide range of weather conditions.
- 1.3 Mr. Massey has visited the lagoons and looked out over the estuary every day, at least twice a day, for the last 25 years from 1977. There are also some records for 1975 and 1976. The raw data have been recorded in notebooks which include details of the bird species, and the date and the number of each species observed. At the end of each month the date and the maximum number of each bird species seen on one day are entered into a separate notebook to provide the data used in the analysis.
- 1.4 The bird data were split up into distinct bird types including the following categories, namely waders, seabirds, raptors, wildfowl (ducks, geese, swans and grebes) and warblers.
- 1.5 The data for each species were entered into Microsoft Excel spreadsheets. The dates were split into two seasons, namely April to July (breeding) and August to March (wintering). Every bird species was labelled as either winter visitor, summer visitor, passage migrant, resident or vagrant species, and for each species a record of the maximum number of each species observed in each month was entered.
- 1.6 The total number of each species of bird recorded in each year was calculated along with other information such as the maximum number of each bird species, the most frequently recorded species and the least frequently recorded bird species.
- 1.7 Mr. Massey is a very knowledgeable naturalist and ornithologist. However the data and subsequent analyses are largely qualitative and subjective but, nevertheless, are very valuable and informative. Other limitations are as follows:-
  - i. The more interesting or nationally declining species may have been targeted in the surveys.
  - ii. The main survey area includes the accessible sections of the lagoons and the surrounding area at Fiddler's Ferry Power Station. The Mersey Estuary including the saltmarshes and mudflats were observed with binoculars or a telescope.

- iii. It was noted that when the weather out at sea or on the estuary was poor, the birds present on the lagoons were more abundant. Weather conditions, which have not been recorded in Mr Massey's data, should be taken into account.
- iv. In addition the number of bird species and their abundance over time will have varied as a result of a number of factors which are described below.

1.8 Over the years the lagoons have been altered considerably as they have been filled with water or pulverised fuel ash (PFA) and consequently have been colonised by vegetation and then re-excavated. This process of the refilling and excavation of the lagoons continues in a cyclical pattern. The table below summarises the conditions at each lagoon in 1987 and in 2002.

<b>Table 1. Comparison of the habitat and vegetation conditions in the Fiddler's Ferry Power Station lagoons between 1987 and 2002.</b>		
<b>'A' Lagoon</b>	Dry settled PFA being excavated by machinery, little vegetation but vertical cliffs created for Sand Martin colonies.	Drying and settled PFA, wetland areas and open water. Colonised by reedbed and pioneer plants providing some cover for nesting.
<b>'B' Lagoon</b>	Drying PFA some excavation has commenced the surface has been colonised by Bulrush and Goat Willow.	Dry PFA with a high cover of scrub and ruderal vegetation. The Sand Martin cliffs are present in 'B' lagoon
<b>'C' Lagoon</b>	Reservoir lagoon consisting of 16 hectares of open water with a concrete edge and little vegetation cover. Important for waterfowl and wildfowl.	Remains as open water with a small island in the eastern corner colonised by reedbed and willow scrub.
<b>'D' Lagoon</b>	Almost full of PFA with areas of open water. Some short vegetation cover suitable for wader roosts.	One small pond at the southern end, being excavated at the north-west end and the remainder is colonised by sparse ruderal vegetation with some Silver Birch and Goat Willow scrub and a large Southern Marsh Orchid colony.
<b>Bunds around the lagoons</b>	Grassed slopes mown occasionally	Mostly planted with a dense cover of young trees and shrubs some open areas of grassland.
<b>Aqueduct</b>	Wide corridor of wet grassland, reedbed, developing scrub and some tree planting on the eastern side.	Very dense corridor of reedbed, tall-herb and grassland vegetation with some scrub encroachment.

- 1.9 During the two-year period of 1988 and 1989 there was a decline in the bird records due to the power station changing ownership and the visits to the lagoons were restricted. It is important to note these periods of under-recording because they are not periods of declines in bird populations.
- 1.10 Mr. Massey has only been able to visit the lagoons before work, during his lunchtime and after work, and therefore the records available are only for these specific times of day. This results in low records for night-flying birds such as owls.
- 1.11 There are limitations and incomplete data series for certain bird species. For example the gull data includes records for 1984 after which there are no records until the period from 1995 to 1999. Lapwing is only recorded from 1992; it is assumed that they were present prior to this time but were not as important in conservation terms as they have been in recent years and were not recorded.

1.12 Other data sets such as those of the raptors will vary little from year to year and are often recorded as singles. These data will be assessed on a presence or absence basis.

## 2.0 THE SURVEY RECORDS

### 2.1 Introduction

2.1.1 The following survey information is examined in relation to the different bird types. Those birds that are considered to be more reliant on the estuary and the surrounding habitat such as saltmarsh are examined first. Many of the data are qualitative but the records can be used to substantiate the trends and patterns described. The trends noted are for complete years (1977 to 2000 inclusive).

2.1.2 Care has to be taken when considering the most frequently recorded birds throughout the recording period as some species are only present on the estuary in the winter and may breed elsewhere. When examining abundant species care also has to be taken because the same individual bird may have been counted on a number of occasions if the flock remains in the estuary for a significant time.

### 2.2 Wildfowl and Wading Bird Records at the Power Station Lagoons and Adjacent Section of the Upper Estuary

#### *Wading Birds*

2.2.1 Table AL2 below shows the wader species recorded with those species most frequently seen at the top of the table.

**Table 2. Wader Species Recorded in the Power Station Lagoons and Adjacent Areas**

Wader species	Number of occasions recorded	Total number of birds recorded	Date the maximum number recorded	Maximum Number
Curlew	269	35135	Nov-85	400
Redshank	259	3799	Dec-95	134
Dunlin	213	11573	Feb-77	1000
Ringed Plover	171	1116	Sep-00	150
Common Snipe	170	1600	Nov-94	80
Oystercatcher	167	769	May-91	32
Golden Plover	162	28968	Oct-00	2000
Common Sandpiper	113	291	Aug-80	15
Little Ringed Plover	98	249	Jul-00	20
Lapwing	97	136949	Dec 96, Nov 99	6000
Green Sandpiper	85	120	Dec-80	5
Ruff	83	336	Jul-79	22
Greenshank	73	145	Sep-91	26
Jack Snipe	54	187	Nov-96	16
Black-tailed Godwit	39	1564	Sep-96	1200
Whimbrel	24	47	May-81	12
Grey Plover	23	48	Sep-90	16
Bar-tailed Godwit	13	25	Sep-91	9
Woodcock	12	13	Jan-02	2
Turnstone	12	13	May-90	2
Little Stint	10	17	Oct-95	4
Curlew Sandpiper	9	50	Sep-91	22
Sanderling	9	44	Jun-01	15
Knot	8	12	Aug-00	3
<b>Continued</b>				

**Table 2 continued**

<b>Wader species</b>	<b>Number of occasions recorded</b>	<b>Total number of birds recorded</b>	<b>Date the maximum number recorded</b>	<b>Maximum Number</b>
Spotted Redshank	7	7	All occasions	1
Wood Sandpiper	7	8	Aug-80	2
Grey Phalarope	2	2	Oct-91, 93	1
Marsh Sandpiper	1	1	May-84	1
Red-necked Phalarope	1	1	Jun-99	1

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**Total waders recorded 223089**

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Number of species	28
Total number of records	11111
Most frequently recorded wader	Curlew (269 occasions)
Least frequently recorded wader	Red-necked Phalarope (1 occasion – June 1999)
Maximum number of one bird species recorded on 1 occasion	6000 (Lapwing)
Most abundant wader	Lapwing (136944 separate sightings)
Least abundant wader	Red-necked Phalarope, Marsh Sandpiper (1 sighting of both)

2.2.2 The above table shows that Lapwing is very abundant and frequently recorded. Lapwing is a resident species that feeds over farmland and which is common in the surrounding area, and Lapwing breeds in good numbers on the PFA lagoons. The Red-necked Phalarope and Marsh Sandpiper are only recorded on single occasions. The Marsh Sandpiper is a passage migrant from Europe and the Red-necked Phalarope is a rare summer visitor which breeds in Shetland and Orkney; neither of these species would be expected in the Mersey Estuary.

2.2.3 The other most frequently recorded waders include Redshank, Dunlin, Ringed Plover, Common Snipe, Oystercatcher and Golden Plover. All the above species either use the estuary all year for feeding or they move to the estuary in the winter after breeding elsewhere.

2.2.4 The birds of lower frequency such as Grey Phalarope, Wood Sandpiper and Spotted Redshank are classed as passage migrants and are not expected to be frequent on the Mersey.

### ***Trends and patterns seen and expected in wader populations***

#### *Bar-tailed Godwit and Black-tailed Godwit*

2.2.5 Both the above are passage migrant species. The Bar-tailed Godwit is an infrequent visitor, rarely seen in numbers greater than ones and twos. The Black-tailed Godwit is more frequent, especially in July. A large number (1,200) was recorded in September 1996, but on other occasions their abundance was much lower.

2.2.6 It is likely that the godwits will continue to use the area in similar numbers but if there is too much disturbance they may roost and feed further up the estuary or chose an alternative site.

#### *Greenshank*

2.2.7 Greenshank is a passage migrant that may stop on the way to the Tropics from the Outer Hebrides. In general, more birds were present at the Mersey Estuary in the years from 1990 to the present than during the period from 1977 to 1987. This bird is most frequently recorded in September at the time of migration.

2.2.8 If disturbance occurs the birds may choose alternative roosting and feeding locations at nearby estuaries such as the Dee or Ribble. This depends on the extent of disturbance but it is probable that localised disturbance does not cause a serious problem.

### *Redshank*

- 2.2.9 This is a resident breeder that is most frequently recorded in the winter months, particularly in November, as this is the time when the birds move to coastal areas. The maximum number of 134 birds was recorded in December 1995 and throughout the winter the records remained high. Recent records have been fewer but the population is increasing. There was a decrease in the number recorded in 1997 but the numbers of Redshank recorded in the estuary have increased since 1997.
- 2.2.10 The annual pattern of Redshank populations at the lagoons and the estuary is high in the winter (November to March) and low in the summer when the birds are breeding elsewhere.

### *Common Sandpiper*

- 2.2.11 Common Sandpiper is a summer visitor to the lagoons and estuary. The number of birds recorded in each year has remained at around 8 with the largest number being present from July to September. The number of birds recorded in August 1980 peaked at 15, this being the highest number indicating it is an infrequent visitor.

### *Common Snipe*

- 2.2.12 Common Snipe is a resident breeder in Britain. There have been three peaks in the populations recorded at Fiddler's Ferry; these occurred in 1979, 1984 and 2000 with a decline in records in 1997. The highest number recorded on one occasion occurred in November 1984 which was a record of 80 birds. Common Snipe are usually more abundant in the winter (October to November) with numbers declining in December.

### *Dunlin*

- 2.2.13 Large numbers of Dunlin have been recorded over the years but in recent years numbers have been low. Dunlin records are most frequent in the winter months when the resident bird populations are increased by wintering Dunlin visiting the estuaries in Britain. The maximum number was in February 1977 when 1,000 Dunlin were recorded. In the summer months the resident birds that remain in the estuary vary between approximately none and 50 birds.

### *Curlew*

- 2.2.14 There are large numbers of Curlew at Fiddler's Ferry, this being the most frequently recorded bird. The total number recorded each year remains at around 1,500 with the majority in the winter months. The general trend includes a rise in numbers from July with a peak in December and then a decline towards April and May.
- 2.2.15 The Mersey Estuary is an important feeding place for birds when inland areas are frozen. The declines in abundance at the estuary during the breeding season are the result of the Curlew breeding grounds being inland, particularly on moorland.

### *Oystercatcher*

- 2.2.16 Oystercatcher is an infrequent visitor to the Estuary and the surrounding area owing to the lack of cockle and mussel beds. The numbers do not vary greatly from month to month with a general maximum of 10 with the exceptions of May 1991 and 2000 when numbers reached 30.

### *Woodcock*

- 2.2.17 Woodcock is a very infrequent visitor to the area. This is a resident bird that nests in woodland. The records only date from 1989 and most records are of singles.

### *Golden Plover*

- 2.2.18 The recorded Golden Plover populations in the area peaked in 2000 after a high count in 1999.

There was a high count in October 2000 of 2,000 Golden Plover. These birds are winter visitors to the estuary and most spend the breeding season on moorlands. The increase in counts and records over the last three years marks a recovery from a decrease in records during 1995 to 1998. The birds appear in high numbers in the area from August to March and as a rule are never recorded in the area in the bird breeding season from April to July.

#### *Ringed Plover*

- 2.2.19 There was a peak in the records of Ringed Plover in 2000 and a high count of 150 birds in September 2000. In other years the total counts remain under 50 with increases in April and August. This could possibly be as a result of adults breeding in April and the young birds contributing to the total count in August.

#### *Green Sandpiper*

- 2.2.20 Green Sandpiper is a passage migrant which is evident from the infrequent records in the area. The bird has been recorded as singles in most years with an increase in numbers between 1990 and 1995 followed by a decline in 1997. The number of records has remained a constant 2 in 1999 and 2000, in September during migration.

#### *Grey and Red-necked Phalarope*

- 2.2.21 Phalaropes have been recorded on only three occasions between 1977 and 2000. Grey Phalarope was recorded in October in 1991 and 1993, and Red-necked Phalarope was recorded in June 1999.

#### *Grey Plover*

- 2.2.22 Grey Plover is a winter visitor and passage migrant to the coasts of Britain. The data reflect this and counts are rarely higher than 4 birds in total, usually in September, October and November. There is one peak in the count when 16 birds were recorded in September 1990.

#### *Jack Snipe*

- 2.2.23 There are few records for Jack Snipe and it is classed as a winter visitor as the breeding grounds are on the continent. There are no birds recorded in the summer months and high counts have been recorded in 1993, 1996 and 2000. The records for Jack Snipe are patchy up to 1989 but after this year it has been a constant visitor.

#### *Little Ringed Plover*

- 2.2.24 The Little Ringed Plover is a summer visitor that has always been recorded with the exception of the under-recorded years of 1989 and 1990. The numbers peaked in July 2000 with a count of 20 birds and in all other years the bird records are between March and September inclusive.

#### *Little Stint*

- 2.2.25 This is an infrequently recorded bird and occasional records have been made during the migration periods when the birds move between Lapland and Africa. The highest count of 4 birds was in October 1995.

#### *Marsh Sandpiper*

- 2.2.26 There has been just one record of a single bird in May 1984.

#### *Lapwing*

- 2.2.27 Lapwing is the most abundant bird in the area with an accumulated count of 136,949. The high counts of 6,000 Lapwings were recorded in December 1996 and November 1999. Records of Lapwings did not begin until 1992 but they have been recorded in very high numbers since. The

Lapwing is a resident bird that flocks with Golden Plover on the coasts in the winter but usually breeds in farmland. The data reflect this and low counts of below 20 birds are recorded in the months of April to June but in the winter the counts regularly remain over 2,000 birds each month through the winter with peaks of up to 6,000.

#### *Knot*

- 2.2.28 Knot is a winter visitor to the coasts and estuaries of Britain. It occurs infrequently but distribution maps show the birds remain closer to the coast and they may not venture as far up the estuary as Fiddler' Ferry. The highest count was in August 2000 with a record of 3 birds.

#### *Turnstone*

- 2.2.29 Turnstone is another passage migrant that rests and feeds in the estuary and the surrounding areas. Single birds have been recorded during the migration periods.

#### *Ruff*

- 2.2.30 Ruff visits Britain in the autumn and spring as a passage migrant. The counts peaked in July 1979 with 22 birds. Since 1995 lower counts have been recorded, this being consistent with sightings in other areas of the Mersey and Britain.

#### *Sanderling*

- 2.2.31 This is an infrequent bird that visits in the winter as a passage migrant. Sandy coastlines are preferred and this may account for the low counts in this area. A peak count of 15 birds in June 2001 was recorded.

#### *Spotted Redshank*

- 2.2.32 Spotted Redshank was only recorded as singles on seven occasions. This is a passage migrant from North Scandinavia.

#### *Whimbrel*

- 2.2.33 Whimbrel is infrequently recorded and has only been present as singles during the past three years. It is a summer visitor and this is reflected in the data with no counts from October to March. The highest count is 12 birds in May 1981.

#### *Wood Sandpiper*

- 2.2.34 The Wood Sandpiper has only been recorded as single birds, mostly during the spring in March, April and May.

#### ***Trends Noted***

- 2.2.35 There appears to have been a temporary decrease in wader species recorded in 1997.

#### ***Ducks, Geese, Swans and Grebes***

- 2.2.36 Table 3 shows the wildfowl species recorded in the area.
- 2.2.37 It is evident from these data that duck, goose, swan and grebe species are frequent visitors to this part of the Mersey Estuary. Many of these species are winter visitors which fly back to North America and Scandinavia to breed in the summer.

**Table 3. Ducks, Geese, Swans and Grebes Recorded in the Power Station Lagoons and Adjacent Areas**

<b>Bird species</b>	<b>Number of occasions recorded</b>	<b>Total number of birds recorded</b>	<b>Date the maximum number was recorded</b>	<b>Maximum number</b>
Mallard	281	65447	Oct-83	911
Grey Heron	266	2213	Aug-93	62
Shoveler	265	14524	Sep-89	464
Shelduck	251	10935	Dec 95, Jan 96	250
Teal	251	67570	Oct-97	1500
Tufted Duck	241	7733	Jan-82	378
Pochard	233	25225	Jan-83	890
Wigeon	178	4645	Jan, Feb 79	200
Little Grebe	170	348	Jun-87	10
Canada Goose	166	6678	Sep-99	414
Pintail	147	2714	Oct-80	430
Great Crested Grebe	145	843	Sep-96	26
Mute Swan	121	459	Jul-94	20
Gadwall	105	368	Oct-95	40
Scaup	63	116	Mar-94	10
Goldeneye	56	81	Feb, Mar 95	4
Pink-footed Goose	35	4501	Jan-99	1200
Ruddy Duck	32	43	Jun-87	5
Grey-lag Goose	16	57	Apr-97	12
Shelduck	14	31	Sept, Oct, Nov 95	5
Bewick's Swan	14	76	Jan-79	19
Common Scoter	10	14	May-85	5
Whooper Swan	9	34	Jan-98	16
Garganey	8	9	Sep-97	2
Ringed-necked Duck	6	6	All dates	1
Goosander	5	9	Nov-90	5
Long-tailed Duck	5	5	All dates	1
Brent Goose	4	8	Nov-84	4
Red-breasted Merganser	3	4	Jan-87	2
Wood Duck	3	3	All dates	1
Barnacle Goose	2	3	Aug-93	2
Bittern	2	2	All dates	1
Mandarin Duck	1	1	Dec-95	1
Pintail	1	1	Jul-86	1
Velvet Scoter	1	1	Nov-82	1
<b>Total Birds</b>		<b>115536</b>		

Number of species	36
Total number of records	3110
Most frequently recorded duck	Mallard (281 occasions)
Least frequently recorded duck	Mandarin Duck, Pintail, Velvet Scoter (1 occasion)
Maximum number of one bird species recorded on 1 occasion	Teal (1500 – Oct 1997)
Most abundant duck	Teal (67570 birds)
Least abundant duck	Mandarin Duck, Pintail, Velvet Scoter



2.2.38 The above tables show that Teal and Mallard are very abundant and frequently recorded. Mallard has been described as the most common bird in Cheshire and Merseyside and numbers are increased in the winter by visiting birds from Continental Europe. Teal are winter visitors from breeding grounds in Russia and Finland. The Mersey is described as an important site in Britain for Teal.

2.2.39 Species recorded only once include Mandarin Duck, Velvet Scoter and Pintail. The Mandarin Duck is classed as a feral species whereas the Velvet Scoter and Pintail are winter visitors and are not expected to be in the estuary. Other infrequent visitors include Bittern which does not breed in this part of Britain and Barnacle Goose which is a species that usually winters on more northern coasts in Scotland.

2.2.40 The other most frequently recorded wildfowl species include Grey Heron, Shoveler, Shelduck, Tufted Duck, Pochard, Wigeon and Little Grebe.

#### *Barnacle Goose*

2.2.41 Barnacle Goose is of rare occurrence in the locality and it is possible that the maximum of three birds seen could be feral birds.

#### *Brent Goose*

2.2.42 This goose is also recorded very infrequently and the maximum count of four birds in November 1984 could be a small flock of feral birds that have escaped.

#### *Canada Goose*

2.2.43 A large population of Canada Geese has been recorded in this area. The maximum is a peak of 414 birds in September 1999. September and early winter are the times of the largest numbers; these coincide with the movement of the geese from inland waterways to estuaries and to the coast in winter. The total counts between January and June often remain under 50 birds.

#### *Goldeneye*

2.2.44 Goldeneye is infrequently recorded and the maximum counts of four in February and March 1995 are unusual. There are only a few records of Goldeneye breeding in Britain and they are generally winter visitors. This is reflected in the counts and the highest numbers being recorded in February.

#### *Pochard*

2.2.45 Pochard occurs in Britain throughout the year and they breed by inland waters. It is possible that they breed in the dense reedbeds at the lagoons. The ducks are more frequently recorded in the survey area in the winter and a peak of 890 birds was present on one date in January 1983.

#### *Common Scoter*

2.2.46 Common Scoter is a visitor to Britain and has been infrequently recorded. There are no Common Scoter records since 1993 and prior to this only single birds were recorded.

#### *Shelduck*

2.2.47 Shelduck is seen very frequently and in abundance in this area of survey. The number recorded increased slowly every year to a peak of over 1;200 in 1995; there has been a slight decline in the number recorded since then but the total count in a year remains at around 500 birds. On two occasions, in December 1995 and in January 1996, the maximum number of birds recorded at one time has been 25. It is possible that these birds were attracted to the sheltered environment of the power station lagoons as a result of bad weather in the estuary.

- 2.2.48 Shelducks are exclusively estuary birds and would be expected to be present in large numbers throughout the year; this is reflected in the data with small peaks in the general trend from September and January.

*Teal*

- 2.2.49 The total count of Teal in a year remains at a constant figure of roughly 2,000 birds throughout the recording period.
- 2.2.50 The general trend is of increasing counts from August through the winter followed by a decline in March. This is consistent with the breeding pattern as the Teal breed on moorland and would be largely absent from the estuary in the summer. The maximum number of Teal recorded on one occasion is 1,500 birds, in October 1997.

*Wigeon*

- 2.2.51 Wigeon is a winter visitor to the estuary and the surrounding area. The salt-marsh is an important habitat because Wigeon graze on Common Saltmarsh-grass, particularly at night.
- 2.2.52 The records of Wigeon increase from August onwards and reach a peak in February. There are few records in April to July when the birds are breeding in Iceland and Russia. In January and February 1979 the number of Wigeon recorded on one day reached 200. Records have not been as high in recent years; there very low counts in 1993, 1994 and 1995 but the numbers have increased slightly since then and in 2000 the total count for the year was 120 birds.

*Gadwall*

- 2.2.53 Gadwall is seen throughout the year in this area but never in large numbers. Counts have increased gradually from 1985 and in 1995 the highest count was 40 in October. Since this record to the year 2000 the counts have been around five birds each month.

*Garganey*

- 2.2.54 Garganey is a summer visitor to Britain and the records show occurrences in April through to September with the highest count of two birds in September 1997. Garganey is therefore of infrequent occurrence.

*Goosander*

- 2.2.55 Goosander is a resident species that remains around the north of Scotland but there are infrequent visitors recorded in this area in six of the 25 years of the recording period.

*Great Crested Grebe*

- 2.2.56 Records of Great Crested Grebe have increased since 1991 and the total count of birds in 1999 and 2000 has remained at a constantly high figure of over 130. This is consistent with previous data recorded further downstream in the estuary. The increase is believed to be related to improved water quality and therefore fish populations that are the chief food source. The highest count of Great Crested Grebe was in September 1996 (26 birds).
- 2.2.57 The records of Great Crested Grebes show an increase in numbers from May to September, suggesting that the local area and possibly the power station lagoons and the estuary are used for breeding.

*Bittern*

- 2.2.58 A male Bittern has only been recorded twice in this area, once in April 1991 and once in June 1993.

### *Scaup*

- 2.2.59 Scaup is a winter visitor that flies down from the Arctic. Since 1997 the records have been sparse but until 1996 the duck was recorded quite frequently. The maximum count of 10 birds was in March 1994.

### *Grey Heron*

- 2.2.60 Herons are very abundant in this area which may be partly attributed to the presence of a heronry on the south side of the estuary near the Manchester Ship Canal. Counts regularly exceed 10 birds, particularly from June to January. The peak record in the surveyed area is 62 Herons in August 1993. The total counts in one year have remained steady since 1993, being around 100 birds in total.
- 2.2.61 Herons are fish-eating birds and the improvement of water quality has had a beneficial effect on numbers.

### *Grey-lag Goose*

- 2.2.62 The records for Grey-lag Geese are very sparse and occasional. There does not appear to be a distinct pattern, and the estuary and the lagoons are not ideal habitat. The highest count of 12 birds in April 1997 is an unusual occurrence and the remaining records are of one or two birds.

### *Little Grebe*

- 2.2.63 The Little Grebe is a resident bird that breeds on ponds, lakes and slow-moving waters. At least one bird is recorded in most months but there are peaks in the summer months, presumably when the young are included in the count. The peak figure was 10 in June 1987.

### *Long-tailed Duck*

- 2.2.64 Long-tailed Duck has been recorded singly on five occasions.

### *Mallard*

- 2.2.65 As mentioned, the Mallard is the most common breeding duck in Cheshire and Merseyside. The records show a decline in the total number every year since 1983 but this may be as a result of a decrease in interest for this common bird by the surveyor. The populations in this area peak around September and October and there is a decline in April and June where the maximum count remains around 100 birds. The highest count was recorded in October 1983 with a record of 911 birds.

### *Mandarin Duck*

- 2.2.66 This bird was recorded as a single in December 1995 and is probably a feral duck that had escaped.

### *Mute Swan*

- 2.2.67 Records of Mute Swan were regular from 1993 to 1996. There were at least two or three Mute Swans counted in about half of the months recorded. The numbers in 1994 and 1995 are high and on one occasion, in July 1994, 20 birds were recorded. This number presumably includes young birds.

### *Pintail*

- 2.2.68 The total counts of Pintail each year have declined since 1980 with a small peak in the late 1990s. Pintails breed sporadically and only remain at the same breeding site for a few years before moving elsewhere; this may explain why the records are irregular. In years of high counts such as 1980 the populations in this area remained low through the breeding season

with an increase in September and a decline towards December. The highest count of 480 birds was in October 1980.

*Shoveler*

- 2.2.69 Shoveler is of very frequent occurrence in the area. The total population recorded each year has remained at a steady count of between 400 and 600 birds for the last six years of records. The Shoveler prefers marsh and damp meadow breeding sites and it may breed in the wet lagoons at the power station. The number recorded tends to increase in September and the maximum figure of 464 was counted in September 1989.

*Pink-footed Goose*

- 2.2.70 Records of Pink-footed Goose have remained at a constant total of under 100 birds, usually recorded from October to February. There was a peak in 1998 and 1999 and this high count was partly the result of an unusual count of 1,200 geese in January 1999. There are no records of Pink-footed Geese in the summer months when they have flown to Greenland and Iceland to breed.

*Red-billed Pintail*

- 2.2.71 This bird was only recorded as a single in July 1986 and would not be expected in the estuary.

*Red-breasted Merganser*

- 2.2.72 Red-breasted Merganser has been recorded on three occasions only. The ducks move south into Britain in winter but remain on more inland waters.

*Ring-necked Duck*

- 2.2.73 Ring-necked Duck has only been recorded as a single bird on six occasions.

*Ruddy Duck*

- 2.2.74 The Ruddy Duck is not native to Britain and the populations have established from escapes. Not many birds have been recorded in this area recently; the highest ever counted was five birds in June 1987.

*Ruddy Shelduck*

- 2.2.75 The Ruddy Shelduck is also a vagrant species and those present in this area may be feral birds. The ducks have only been recorded in the period of three years from 1994 to 1996.

*Tufted Duck*

- 2.2.76 Records of Tufted Duck show that it is a frequent visitor although the total yearly counts have declined since 1993. There are on average about 20 birds present in the summer months that suggest there may be some breeding pairs but the abundance of Tufted Duck in this area increases dramatically in the winter months and the highest count was 378 in January 1982.

*Bewick's Swan*

- 2.2.77 The numbers of Bewick's Swan have declined in the area recently and the bird has not been seen since 1995. The highest count was 19 swans in January 1979 and all the other records have been counted in the winter months as this bird is a visitor from northern Europe.

*Velvet Scoter*

- 2.2.78 Only one Velvet Scoter has been recorded, in November 1982.

## Whooper Swan

- 2.2.79 The Whooper Swan is a winter visitor but it tends to remain throughout the year in Scotland. The highest number was in 1998, including a peak of 16 in January.

## 2.3 Seabird Records at the Power Station Lagoons and Adjacent Section of the Upper Estuary

- 2.3.1 Since the start of recording in 1977, 16 out of 19 species of gull and 7 out of 16 species of tern recorded in Britain have been recorded in this part of the Mersey Estuary and the power station lagoons. Gulls are frequent visitors and many of the gull species are summer visitors.

Table 4. Seabird Species Recorded in the Power Station Lagoons and Adjacent Areas.

Seabird species	Number of occasions recorded	Total number of birds recorded	Date the maximum number recorded	Maximum number
Arctic Tern	11	20	May 87 and 90	5
Black Tern	11	70	May-90	30
Black-headed Gull	51	79899	Nov, Dec 1996	8000
Black-legged Kittiwake	15	16	Mar-87	2
Caspian Tern	1	1	Jun-94	1
Guillemot	1	1	Dec-92	1
Common Gull	51	2234	Jan-84	300
Common Tern	27	45	May-92	6
Shag	2	2	Sept 83, May 86 Feb 81, Apr 84, Mar 85,	1
Glaucous Gull	84	112	Apr 85	4
Great Black-backed Gull	51	2175	Jan-84	400
Cormorant	184	2938	Aug-98	50
Great Skua	3	3	Oct 84, 86, Mar 99	1
Gull-billed Tern	1	1	Oct-94	1
Herring Gull	51	31848	Nov, Dec 96	3000
Iceland Gull	47	57	Apr 83, Mar, Apr 84	3
Laughing Gull	1	1	Sep-95	1
Lesser Black-backed Gull	51	8472	Oct-98	2000
Little Gull	14	17	May-84	3
Long-tailed Skua	1	1	Sep-83	1
Mediterranean Gull	2	2	Oct 94, Mar 99	1
Pomarine Skua	1	1	Oct-93	1
Ring-billed Gull	11	11	All dates	1
Roseate Tern	2	2	All dates	1
Sabine's Gull	1	1	Oct-91	1
Sandwich Tern	4	5	May-94	2
Slender-billed Gull	1	1	Jun-86	1
Yellow-legged (Herring) Gull	141	65	Aug-95	8
Yellow-legged Gull	8	10	Oct 95, Nov 95	2
<b>Total number of seabirds recorded</b>		<b>128011</b>		
Number of species	29			
Total number of records	752			
Most frequently recorded seabird	Cormorant (184 occasions)			
Least frequently recorded seabird and least abundant	Pomarine Skua, Long-tailed Skua, Laughing Gull, Sabine's Gull, Slender-billed Gull, Gull-billed Tern, Caspian Tern, Guillemot			
Maximum number of one bird species recorded on 1 occasion	Black-headed Gull (8000 counted in Nov and Dec 1996)			
Most abundant seabird	Black-headed Gull			

- 2.3.2 The results of the gull census on the Mersey Estuary organised by the British Trust for Ornithology on the 22<sup>nd</sup> January 1983 revealed that the estuary is very important for gull species. A total of 74% of the British coast population of Lesser Black-backed Gulls was recorded which included 10,109 birds. Other totals included 12% of the British coast population of Black-headed Gull, 11% of Common Gull, 2.5% of Herring Gull and 1.8% of Great Black-backed Gull.

#### *Arctic Tern*

- 2.3.3 The Arctic Tern migrates from one end of the globe to the other. It is a summer visitor to Britain but breeding is limited to areas north of Anglesey and Northumberland. 20 birds have been recorded in this area with a maximum of five birds counted in May 1987 and 1990.

#### *Black Tern*

- 2.3.4 The drainage of fens and marshes used as breeding grounds by these birds has led to this species only visiting Britain during the migration period. This is evident from the data and sightings of a few Black Terns in this area, particularly in April and May, and in September and October. A maximum of 30 birds were sighted in May 1990; this could possibly be as a result of poor weather conditions.

#### *Black-headed Gull*

- 2.3.5 There are some limitations in the Black-headed Gull data as there are only records for 1984 and for the period from 1995 to 1998. This may be because the Black-headed Gull is a very numerous and frequent visitor to this area, particularly during the winter months. The maximum count on one occasion was 8,000 birds, in November and December 1996. The maximum counts in other winter months usually exceed 1,000 birds.
- 2.3.6 The Black-headed Gull is a true estuary gull species that can feed by piracy on the food that Lapwings have collected and they will chase until the food is dropped. Lapwings are abundant in this area.

#### *Kittiwake*

- 2.3.7 The Kittiwake is a rare visitor inland and usually stays out at sea. This section of the Mersey Estuary is too far inland for high counts of Kittiwake and they have only been seen in singles throughout the whole year.

#### *Caspian Tern*

- 2.3.8 Only one sighting of a single Caspian Tern has been recorded. This is an irregular visitor to the south-eastern counties and would not be expected in the Mersey Estuary.

#### *Guillemot*

- 2.3.9 Guillemots remain out at sea until the breeding period but this bird nests in cliffs, a habitat which is not present in the area. One Guillemot was recorded in December 1992.

#### *Common Gull*

- 2.3.10 Common Gull has only been recorded in 1984 and the period from 1995 and 1998 but the general trend is increased counts in the winter months with a decline towards March and an increase in October. The winter months are when the gulls have moved from their breeding sites on the moors and bogs and are feeding in the estuary. 30 or more birds are of frequent occurrence in early winter and a maximum of 300 birds was recorded in January 1984.

*Common Tern*

- 2.3.11 On average two or three Common Terns have been recorded nearly every year, usually in the summer. The maximum was six birds recorded in May 1992.

*Shag*

- 2.3.12 There are only two records of Shag which is a bird confined to rocky cliffs and a rare visitor to estuaries.

*Glaucous Gull*

- 2.3.13 Glaucous Gull is a winter visitor to Britain from the Arctic. It usually remains in Scotland and Shetland but has been recorded on 84 occasions over the 25 years in the area. The highest count was four birds in February 1981, April 1984, March 1985 and April 1985.

*Great Black-backed Gull*

- 2.3.14 The Great Black-backed Gull data is restricted to the five years as mentioned previously. It is present in numbers below 50 in all months of the year with an unusual record of 400 birds in January 1984.

*Cormorant*

- 2.3.15 The records of Cormorant have increased greatly since 1990 which may be the result of improved water quality leading to a larger fish population. The counts do not vary much throughout the year; there may be slight decrease in the counts during the breeding season when the birds will move to sea cliffs and marine islands. Observations of the lagoons show that the floating buoy in the centre of 'C' lagoon is a very popular resting place for Cormorants. The maximum number recorded on one occasion was 50 birds in August 1998; the population at this time may have been increased by the presence of young birds.

*Great Skua*

- 2.3.16 Singles of Great Skua have been recorded on just three occasions. They remain out at sea for the majority of the year and breed in the Shetlands.

*Gull-billed Tern*

- 2.3.17 This bird has only been recorded on one occasion in October 1994 and is a passage migrant.

*Herring Gull*

- 2.3.18 Herring Gulls are frequently recorded, usually in large numbers, especially during the winter. The maximum number of Herring Gulls was observed during October and November with a peak count of 3,000 in November and December 1996. This coincides with the largest count of Black-backed Gulls, although the data only cover five years in total. In 1995 and 1996 the yearly total number of Herring Gulls was over 9,000.

*Iceland Gull*

- 2.3.19 The report by the Mersey Estuary Conservation Group describes the Fiddler's Ferry area as being particularly attractive to Iceland Gull and it has been recorded on 47 occasions. The most frequent sightings were in the early 1980s but one bird was recorded in 2000. The sightings have mostly been in January and February.

*Laughing Gull*

- 2.3.20 Only one record of a single Laughing Gull was made in September 1995; this bird is a North American rarity.

*Lesser Black-backed Gull*

- 2.3.21 Lesser Black-backed Gull has been frequently recorded with a maximum sighting of 2,000 birds in October 1998. The data are limited as in the cases of the other gulls and only five years are included. The counts of Lesser Black-backed Gull range between around 30 birds during the breeding season and over 600 birds on one occasion during September, October and November.

*Little Gull*

- 2.3.22 The Little Gull is a passage migrant; the counts are usually of single birds in late spring. The maximum count was three birds in May 1984.

*Long-tailed Skua and Pomarine Skua*

- 2.3.23 There is only one record of the Long-tailed Skua, in September 1983. The Pomarine Skua has only been recorded on one occasion in October 1993. Both species are irregular passage migrants.

*Mediterranean Gull*

- 2.3.24 There have been two single sightings of the Mediterranean Gull, one in October 1994 and one in March 1999.

*Ring-billed Gull*

- 2.3.25 The Ring-billed Gull has only been recorded as single birds. It is a North American vagrant and sightings coincide with sightings at Seaforth further down the estuary.

*Roseate Tern*

- 2.3.26 There have only been two sightings of single Roseate Terns.

*Sabine's Gull and Slender-billed Gull*

- 2.3.27 There has been only one sighting of Sabine's Gull, in October 1991. This is a passage migrant. One Slender-billed Gull was seen in June 1986, the only record.

*Sandwich Tern*

- 2.3.28 Sandwich Terns are summer visitors that prefer to breed on shingle beaches and offshore islands, and would not be expected in the Mersey Estuary. They have been recorded on four occasions with a maximum of two birds seen in May 1994.

*Yellow-legged Herring Gull and Yellow-legged Gull*

- 2.3.29 The Yellow-legged Herring Gull and the Yellow-legged Gull are passage migrant species. They occur infrequently although the Yellow-legged Herring Gull is recorded more often with a maximum number on one occasion of eight birds.

***Trends Noted***

- 2.3.30 Lesser Black-backed Gull and Black-headed Gull have occurred in large numbers in same months and years, notably in November and December 1996.



## 2.4 Raptor and Passerine (Perching) Bird Records at the Power Station Lagoons and Adjacent Section of the Upper Estuary

### *Raptors*

- 2.4.1 There are 12 species of raptor recorded at Fiddler's Ferry and the adjacent area of the Mersey Estuary. Sparrowhawk is the most frequently recorded and has been seen on 200 occasions, usually as a single bird. Raptors that have been recorded in greater numbers include Kestrel with a maximum of 10 birds on one occasion in August 1996 and again in August 1999. Even greater numbers of Common Buzzard have been recorded including a sighting of 8 birds in May 2000.
- 2.4.2 Other less frequently recorded raptors include Gyr Falcon, Hen Harrier, Merlin, Montagu's Harrier, Goshawk and Osprey. Marsh Harrier has been of frequent occurrence in recent years (1999 and 2000). Peregrine Falcon breed on the railway bridge over the river and this species has been recorded fairly frequently with a maximum of four seen in August 1992.

**Table 5. Summary of the Raptor Data Recorded in the Power Station Lagoons and Adjacent Areas.**

Number of species	12
Total number of records	573
Most frequently recorded raptor	Sparrowhawk (200 occasions)
Number of species	Osprey and Gyr Falcon
Maximum number of birds recorded on one occasion	Kestrel (10 birds seen in August 1996 and 1999)

### *Passerine Birds*

#### *Warblers*

- 2.4.3 The reedbeds on the salt-marsh and the aqueduct area of the power station contain important breeding habitats for warblers such as Reed Warbler and Sedge Warbler. The undisturbed and dense thickets of scrub and Bramble on parts of the power station land are also suitable breeding habitats for other warblers such as Willow Warbler and Chiffchaff. Moderately high counts of warblers have been recorded over the years in this area.

**Table 6. Summary of the Warbler Species Recorded and the Number of Occasions Seen in the Power Station Lagoons and Adjacent Areas.**

Bird species	Number of occasions recorded	Total number of birds recorded	Date the maximum number was recorded	Maximum number
Blackcap	42	134	Jan-98	11
Chiffchaff	36	56	Mar-00	6
Grasshopper Warbler	31	46	May-96	4
Whitethroat	84	598	May-98	90
Reed Warbler	87	266	May-95	10
Garden Warbler	10	14	May 2000	2
Goldcrest	33	59	Sep-93	6
Lesser Whitethroat	10	12	May Jun 94	2
Savi's Warbler	1	1	Apr-99	1
Sedge Warbler	89	488	Jul-78	30
Willow Warbler	71	256	Apr-00	22
<b>Total birds</b>		<b>1930</b>		
<b>Continued</b>				

**Table 6 continued**

Number of species	11
Total number of records	494
Most frequently recorded warbler	Reed Warbler (87 occasions)
Least frequently recorded warbler	Savi's Warbler (1 occasion)
Maximum number of one bird species recorded on 1 occasion	Whitethroat (90 birds recorded May 1998)
Most abundant warbler	Whitethroat
Least abundant warbler	Savi's Warbler

*Blackcap*

- 2.4.4 Blackcaps are summer visitors and have been recorded more frequently in recent years in this area. The records extend from April to September with a maximum count of 11 birds in January 1998. Blackcaps breed in dense vegetation such as Bramble and some of the undisturbed areas around the power station are ideal habitat.

*Chiffchaff*

- 2.4.5 The Chiffchaff is another summer visitor although the records in this area include every month of the year. This warbler is one of the first migrants to arrive and often stays until the beginning of winter. Chiffchaffs breed in low bushes. The maximum count was six birds in March 2000.

*Grasshopper Warbler*

- 2.4.6 Records of Grasshopper Warbler have increased in recent years. As a rule the birds arrive in Britain in late April and breed in dense vegetation. The maximum count is four birds in May 1996 but this species is very difficult to observe.

*Whitethroat*

- 2.4.7 Whitethroat is another summer visitor and counts are only within the period of April to September. The highest counts are in April when the birds are exhibiting courtship displays which makes them more conspicuous. The maximum count was 90 birds, in May 1998. The Whitethroat is Britain's commonest warbler and breeds in dense scrub and hedgerows.

*Reed Warbler*

- 2.4.8 The cover of Common Reed and Bulrush reedbeds in this part of the estuary and within the power station lagoons provides ideal habitat for Reed Warbler, a species that is recorded very frequently in the summer months when it flies to Britain to breed. The main counts are from April to August with some records in September. The maximum count was 10 birds in May 1995. It is difficult to see the birds amongst the reeds and listening for the call is a more successful method of recording.

*Garden Warbler*

- 2.4.9 The Garden Warbler is infrequently recorded and this may be as a result of it being quite an inconspicuous bird. All counts were recorded between April and July.

*Goldcrest*

- 2.4.10 Goldcrest is a resident species. There were no records in the breeding season either because the birds were less conspicuous or the Scot's pine trees around the lagoons are unsuitable for breeding. The maximum count was six in September 1993.

#### *Lesser Whitethroat*

- 2.4.11 Lesser Whitethroat has only been recorded in April to July from 1992 to 1996. The bird nests in dense bushes and scrub, and is only present in Britain during the breeding season. There are records of singles and twos only.

#### *Savi's Warbler*

- 2.4.12 Savi's Warbler has only been recorded on one occasion, in April 1999. It is a vagrant species and regarded as a newcomer.

#### *Sedge Warbler*

- 2.4.13 Sedge Warblers have been recorded fairly frequently throughout the 25 years' of observation and numbers have increased in recent years. The Sedge Warbler is a summer visitor and records extend from April to August with a few in September. The maximum count was 30 birds in July 1978. Sedge Warblers breed in any dense vegetation including reedbed and dense bushes, all of which are present in this part of the Mersey Estuary and within the power station lagoons area.

#### *Willow Warbler*

- 2.4.14 Together with Whitethroat the Willow Warbler is the most common warbler species in Britain. It is another summer visitor and the records are most frequent from April to August with some in March and September. The maximum count of Willow Warbler was 22 birds in April 2000; the dense cover of vegetation at the aqueduct area of the power station provides excellent breeding habitat and nests on the ground have been found there.

#### **Other Bird Species**

- 2.4.15 The following passerine (perching) birds have not been entered into the main database as the records from the period of 1977 to 2000 are not considered to be of particular significance as they are incomplete or the species are common birds that are present at the power station continuously, or they are of species believed to be abundant around the power station but have been under-recorded.

**Table 7. List of Other Passerine Breeding Species Recorded Including the Number of Breeding Pairs and their Locations in the Power Station Lagoons and Adjacent Areas.**

<b>Bird species</b>	<b>Number of breeding pairs</b>	<b>Breeding location</b>
Wren	10 pairs	Around the lagoons
Dunnock	5 pairs	Around the lagoons
Robin	6 pairs	Around the lagoons
Blackbird	10 pairs	Around the lagoons
Great Tit	1s and 2s seen mostly in the winter.	-
Magpie	4 pairs	Around the lagoons
Carrion Crow	4 pairs	Pylons and trees
House Sparrow	Flocks of 30-60 birds	Buildings around power station

- 2.4.16 The Jackdaw was recorded flying over the Mersey with flocks of Carrion Crow and Rook, particularly in the winter. This record was presence only, with no counts.
- 2.4.17 High counts of 2,000 Wood Pigeon were recorded in January 1994; there are no counts entered since and it is assumed that this bird is so frequent in the area that counting was of little value.
- 2.4.18 Rooks are present all year and are thought to breed south of the Mersey in the woodland at Manor Farm.