

Administration,  
Environmental Licensing Programme,  
Office of Climate, Licensing & Resource Use,  
Environmental Protection Agency,  
headquaters,POBox3000,  
Johnstown,Castle Estate,  
County Wexford.  
Your Ref.:A0361-01

Our reference :MS/B&Lis/11

28 February 2011

Sub.: Ballincurring & Lisgoold Agglomeration (Register No. A0361-01) Regulation 25(c)(ii) Further Information Response

Dear Sir/Madam,

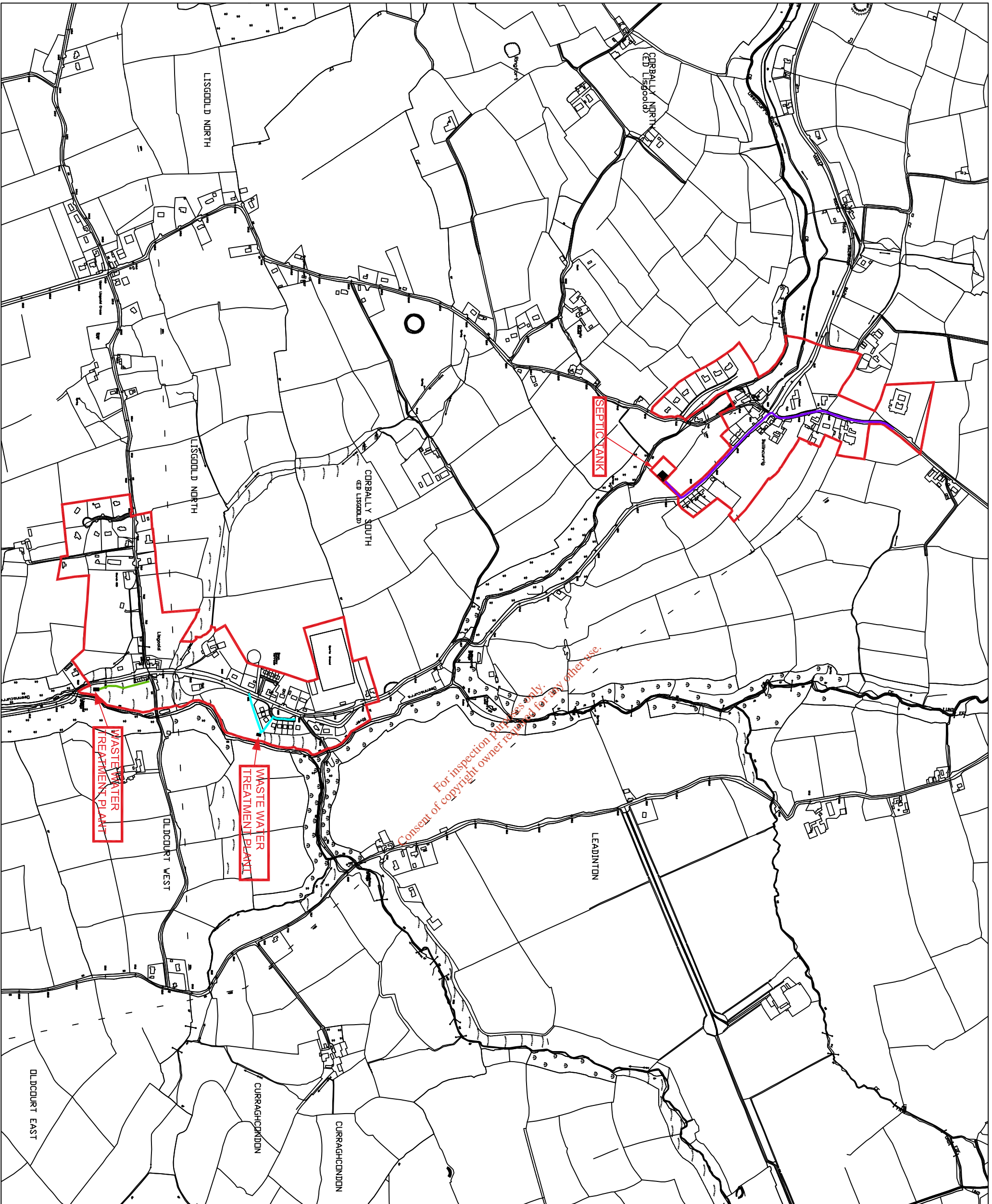
With reference to your letter of the 14 of December 2010, please find the following attached:

- 1 Original of the Ballincurring & Lisgoold Agglomeration (Register No. A0 439 -01) Regulation 25(c)(ii) Further Information Response&attachments.
- 1 Copy of the Ballincurring & Lisgoold Agglomeration (Register No. A0 361 -01) Regulation 25(c)(ii) Further Information Response &attachments.
- 1 CDROM with the Further Information Response & attachments in PDF Format.

Yours faithfully,

---

Ms Patricia Power,  
Director of services, Water Services,  
Cork County Council,  
County Hall, Cork.



**NOTES:**

1. This drawing is the property of Cork County Council. It is a confidential document and must not be copied, used, or its content divulged without prior written consent.
2. Includes Ordnance Survey Ireland data reproduced under OSI Licence number: Cork County Council/CMA 2004/07. Unauthorised reproduction infringes Ordnance Survey Ireland and Government of Ireland copyright. © Ordnance Survey Ireland, 2004.
3. All levels refer to Ordnance Survey Datum, Malin Head.
4. DO NOT SCALE, use figured dimensions only, if in doubt ask.

**AGGLOMERATION  
BOUNDARY**



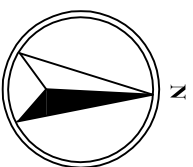
**CATCHMENT 1**



**CATCHMENT 2**



**CATCHMENT 3**



**CORK COUNTY COUNCIL**  
SOUTHERN DIVISION

Niall O'Keefe, B.E. Chief Executive  
County Hall, Cork.

Patricia Power,  
Director of Services,  
Asset Operations South

Project: BALLINCURRIG LISGGOLD WWTP  
WASTE WATER  
DISCHARGE LICENCE APPLICATION

Title: Application Form  
Attachment B1\_Map3  
Agglomeration Boundary Served By  
Waste Water Treatment Works

Designed: CB	Checked: MH	Scale: 1:10,000 @ A3	Drawing No: B1_Map3_A
Drawn: MM	Approved: MH	Date: NOV 09	Status: A
File Path:			Rev: A

Rev	Date	By	Description
A	03.03.11	MM	Location of S.T. & W.W.T.P. included

## Ballincurring & Lisgoold Regulation 25 Further Information Response

Question 1      Assess the likelihood of significant effect of the waste water discharges from the above agglomerations on the relevant European sites by referring to Circular L8/08 “Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments” issued by the Department of Heritage and Local Government. In particular, the flow diagram in Appendix 1 should be completed and the results of each section recorded. Provide details of the results of this assessment within one month of the date of this notice and provide a reasoned response for the decision. If significant effects are likely then an appropriate assessment must be carried out and a report of this assessment forwarded to the Agency by within 1 month of the date of this notice. You are advised to provide the requested information in accordance with the “Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. 684 of 2007)”

Wastewater Discharge Licence Application: A0434-01

Circular L8/08 2 September 2008

Water Services Investment and Rural Water Programmes –  
Protection of Natural Heritage and National Monuments

For new projects and significant changes to any existing operations, if the answer is 'yes' to any of the following, the project (i.e. construction, operation and maintenance) must be screened for its impacts:	
1. Is the development in or on the boundary of a nature conservation site NHA/SAC/SPA?	No
2. Will nationally protected species be directly impacted? Wildlife Acts (1976 and 2000), Flora Protection order (S.I. 94 of 1999)?	No
3. Is the development a surface water discharge or abstraction in the surface water catchment, or immediately downstream of a nature conservation site with water dependant qualifying habitats/ species?	yes
4. Is the development a groundwater discharge or abstraction in the ground water catchment or within 5 km of a nature conservation site with water-dependant qualifying habitats/species?	yes
5. Is the development in the surface water or groundwater catchment of salmonid waters?	No
6. Is the treatment plant in an active or former floodplain or flood zone of a river, lake, etc?	No
7. Is the development a surface discharge or abstraction to or from marine waters and within 3km of a marine nature conservation site?	yes
8. Will the project in combination with other projects (existing and proposed) or changes to such projects affect the hydrology or water levels of sites of nature conservation interest or the habitats of protected species?	No

Introduction

1.1 Ballincurrig is situated within Owenacurra River Valley, approximately 2 kilometres north of Lisgoold and 10 kilometres north of Midleton. The village is served by Regional Road R-626-69. In the overall strategy of the Local Area Plan, Ballincurrig is designated as a Village within East Cork.

Lisgoold is located approximately 8 kilometres north of Midleton, in the Owenacurra River valley. The village is served by Regional Road R-626-69. In the overall strategy of this Local Area Plan, Lisgoold is designated as a Village Nucleus within East Cork.

1.2 The assessment has been prepared in accordance with the following guidance:

European Commission (2000) Managing Natura 2000 sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC.

European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC.

Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Environment, Heritage and Local Government, 2009.

2 Appropriate Assessment Screening Matrix

2.1 Description of project	
Location	Ballincurrig & Lisgoold Villages
Description of the key components of the project	<p>The Ballincurrig &amp; Lisgoold Agglomeration can be split up into 3 catchments, each served by a septic tank or WWTP.</p> <p><b>Catchment 1</b></p> <p>The first catchment is consists of Ballincurrig village. The septic tank which serves this comprised of the following :</p> <ul style="list-style-type: none"> <li>• Inlet</li> <li>• Septic Tank</li> <li>• Percolation Area</li> </ul> <p><b>Catchment 2</b></p> <p>The second catchment consists of the Northern half of Lisgoold. The Old WWTP in Lisgoold serves this catchment. These sewers are a combined system.</p> <p>This system is comprised of the following;</p> <ul style="list-style-type: none"> <li>• Inlet</li> <li>• Aeration Tank</li> <li>• Clarifier</li> <li>• Percolation Area</li> </ul>

	<p>Catchment 3</p> <p>The third catchment consists of the Southern half of Lisgoold. The New WWTP in Lisgoold was built to serve The Cois na Curra housing estate.</p> <p>This WWTP is comprised of the following;</p> <ul style="list-style-type: none"> <li>• Inlet Works</li> <li>• Inlet Pump Sump</li> <li>• Sequence Batch Reactor</li> <li>• Ferric Dosing System</li> <li>• Balance Tank</li> <li>• Backwash Tank</li> <li>• Culligan Filters</li> <li>• Sludge Holding Tank</li> <li>• Outlet</li> </ul> <p>As the Cois na Curra Estate has only been partially built, the WWTP is not operational yet. It is currently functioning as a holding tank.</p>
Distance from designated sites in potential impact zone*	7.25 Km to Lisgoold and 8.5Km to Ballincurring

2.2 Description of the Natura 2000 sites within the potential impact zone <sup>1</sup>	
Name	The Great island Channel SAC
Site Code	001058
Site Description	<p>The Great Island Channel stretches from Little Island to Midleton, with its southern boundary being formed by Great Island.</p> <p>It is an integral part of Cork Harbour which contains several other sites of conservation interest. Geologically, Cork Harbour consists of two large areas of open water in a limestone basin, separated from each other and the open sea by ridges of Old Red Sandstone.</p> <p>Within this system, Great Island Channel forms the eastern</p>

<sup>1</sup> Natura 2000 sites within the potential impact zone of the proposed development have been identified in accordance with guidance provided in the NPWS circular L8/08.

	<p>stretch of the river basin and, compared to the rest of Cork Harbour, is relatively undisturbed.</p> <p>Within the site is the estuary of the Owennacurra and Dungourney Rivers. These rivers, which flow through Midleton, provide the main source of freshwater to the North Channel.</p> <p>The main habitats of conservation interest are the sheltered tidal sand and mudflats and Atlantic salt meadows, both habitats listed on Annex I of the EU Habitats Directive. Owing to the sheltered conditions, the intertidal flats are composed mainly of soft muds. These muds support a range of macro-invertebrates, notably <i>Macoma balthica</i>, <i>Scrobicularia plana</i>, <i>Hydrobia ulvae</i>, <i>Nephtys hombergi</i>, <i>Nereis diversicolor</i> and <i>Corophium volutator</i>. Green algal species occur on the flats, especially <i>Ulva lactuca</i> and <i>Enteromorpha</i> spp.</p> <p>Cordgrass (<i>Spartina</i> spp.) has colonised the intertidal flats in places, especially at Rossleague and Belvelly.</p> <p>The salt marshes are scattered through the site and are all of the estuarine type on mud substrate. Species present include Sea Purslane (<i>Halimione portulacoides</i>), Sea Aster (<i>Aster tripolium</i>), Thrift (<i>Armeria maritima</i>), Common Saltmarsh-grass (<i>Puccinellia maritima</i>), Sea Plantain (<i>Plantago maritima</i>), Greater Sea-spurry (<i>Spergularia media</i>), Sea Lavender (<i>Limonium humile</i>), Sea Arrowgrass (<i>Triglochin maritimum</i>), Mayweed (<i>Matricaria maritima</i>) and Red Fescue (<i>Festuca rubra</i>).</p>
<p>Qualifying Interests of The Great Island Channel SAC .</p>	<p>The site is extremely important for wintering waterfowl and is considered to contain three of the top five areas within Cork Harbour, namely North Channel, Harper's Island and Belvelly-Marino Point. Shelduck are the most frequent duck species with 800-1000 birds centred on the Fota/Marino Point area. There are also large flocks of Teal and Wigeon, especially at the eastern end. Waders occur in the greatest density north of Rosslare, with Dunlin, Godwit, Curlew and Golden Plover the commonest species. A population of about 80 Grey Plover is a notable feature of the area. All the mudflats support feeding birds; the main roost sites are at Weir Island and Brown Island and to the north of Fota at Killacloyne and Harper's Island. Ahanes supports a roost also but is subject to disturbance. The numbers of Grey Plover and Shelduck, as given above, are of national importance.</p>
<p>Other Notable Features of The Great Island Channel SAC .</p>	<p>The site is an integral part of Cork Harbour which is a wetland of international importance for the birds it supports. Overall, Cork Harbour regularly holds over 20,000 waterfowl and contains Internationally important numbers of Black-tailed Godwit (1,181) and Redshank (1,896) along with Nationally important numbers of nineteen other species. Furthermore, it contains the large Dunlin (12,019) and Lapwing (12,528) flocks. All counts are average peaks, 1994/95 – 1996/97. Much of the site forms part of</p>

	<p>Cork Harbour Special Protection Area, an important bird area designated under the EU Birds Directive.</p> <p>The site is of major importance for the two habitats listed on the EU Habitats Directive that it contains, as well as for its important numbers of wintering waders and wildfowl. It also supports a good invertebrate fauna.</p>
Conservation Objectives	<p>To avoid deterioration of the habitats of the qualifying species and species of special conservation interest, or significant disturbance to these species, thus ensuring that the integrity of the site is maintained.</p> <p>To ensure for the qualifying species and species of special conservation interest that the following are maintained in the long-term.</p> <ul style="list-style-type: none"> <li>○ the population of the species as a viable component of the site;</li> <li>○ the distribution and extent of habitats supporting the species;</li> <li>○ the structure, function and supporting processes of habitats supporting the species;</li> </ul> <p>Source – National Parks and Wildlife Service</p>

2.3 Assessment Criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	<p><b>Ballincurrig &amp; Lisgoold</b></p> <p>There are 3 catchment areas:</p> <ol style="list-style-type: none"> <li>1. Ballincurrig village. The septic tank which serves this area comprised of the following : <ul style="list-style-type: none"> <li>• Inlet</li> <li>• Septic Tank</li> <li>• Percolation Area</li> </ul> Waste water entering the Ballincurrig septic tank receives primary treatment. Effluent discharging from the outlet chamber goes to percolation.</li> <li>2. The Old WWTP in Lisgoold serves this catchment. These sewers are a combined system. This system is comprised of the following; <ul style="list-style-type: none"> <li>• Inlet</li> <li>• Aeration Tank</li> <li>• Clarifier</li> <li>• Percolation Area</li> </ul> Treated effluent from the Woodbrook Estate WWTP is</li> </ol>

	<p>discharged to a percolation area located 20m West of the Owennacurra River. This percolation area appears to be functioning satisfactorily.</p> <p>3. The New WWTP in Lisgoold was built to serve The Cois na Curra housing estate.</p> <p>This WWTP is comprised of the following;</p> <ul style="list-style-type: none"> <li>• Inlet Works</li> <li>• Inlet Pump Sump</li> <li>• Sequence Batch Reactor</li> <li>• Ferric Dosing System</li> <li>• Balance Tank</li> <li>• Backwash Tank</li> <li>• Culligan Filters</li> <li>• Sludge Holding Tank</li> <li>• Outlet</li> </ul> <p>Treated effluent from the Cois na Curra Estate is stored in a holding tank and taken off site when full and treated at Midleton WWTP.</p> <p>Other Discharges :</p> <p>1) Midleton WWTP and Irish Distillers Ltd :</p> <p>Treated waste from the combination of these two sources (Midleton WWTP and Irish Distillers Ltd) discharges into the East Channel of the Harbour at Rathcoursey which is immediately downstream of the SAC.</p> <p>2) Discharge from Carrigtwohil WWTP: Treated effluent from the Carrigtwohil Waste Water Treatment Plant is discharged to The Great island Channel SAC at Slatty Bridge.</p>
<p>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site taking into account the following:</p> <ul style="list-style-type: none"> <li>○ Size and scale</li> <li>○ Land-take</li> <li>○ Distance from the Natura 2000 site or key features of the site:</li> <li>○ Resource</li> </ul>	<p>Discharges could give rise to elevated nutrients entering the Owenacurra upstream of Midleton . Increased nutrient levels may impact on the ecology of an area by changing the composition of floral communities and reducing the ability of less robust plants to survive. Increased nutrient levels may also result in increasing the invertebrate populations in the estuary, thereby increasing bird population levels.</p> <p>However the potential for the treatment plant discharge to result in elevated nutrients within the Great island Channel SAC is reduced by the following :</p> <ul style="list-style-type: none"> <li>➤ The treated effluent enters the Great island Channel which is a large and well exchanged body of water with unlimited dilution capacity via</li> </ul>



<p>requirements (water abstraction etc.)</p> <ul style="list-style-type: none"> <li>○ Emissions (disposal to land, water or air)</li> <li>○ Excavation Requirements</li> <li>○ Transportation Requirements</li> <li>○ Duration of construction, operation, decommissioning</li> <li>○ Other.</li> </ul>	<p>the Owenacurra river/estuary where the discharge receives adequate dilution.</p>
<p>Describe any likely changes to the site arising as a result of:</p> <ul style="list-style-type: none"> <li>○ Reduction in habitat area</li> <li>○ Disturbance to key species</li> <li>○ Habitat or species fragmentation</li> <li>○ Reduction in species density</li> <li>○ Changes in key indicators of conservation value (water quality etc)</li> <li>○ Climate Change</li> </ul>	<p>Reduction in habitat area: No significant impacts are evident or predicted on habitats within the Cork Harbour or the Great Island Channel arising from this operation .</p> <p>Disturbance to key species: The three facilities (2 wwtp's &amp; one septic tank) at Ballincurring &amp; Lisgoold do not cause any disturbance to species within the SAC.</p> <p>Habitat or species fragmentation: No habitat fragmentation has been caused as a result of the operation of this facility.</p> <p>Reduction in species density: The effluent is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on species for which the SPA is designated. Also it should be noted that an increase in nutrients entering the SAC is not likely to have a negative impact on bird population as increased nutrients increases the invertebrate population on which the birds feed.</p> <p>Changes in key indicators of conservation value eg water quality:  Refer to application section F pages 27/28</p> <p>Recent data compiled by the EPA for 2009 and the Marine Institute for 2010 show that the water quality in Cork Harbour ( including the North Channel) is compliant with the new EQS standards and the Shellfish waters standards</p>
<p>Describe any likely impacts on the Natura 2000 site as a whole in terms of:</p>	<p>Interference with the key relationships that define the structure of the site: The structure of the SAC is not impacted by the operation of the facilities within the three catchments.</p>

<ul style="list-style-type: none"> <li>○ Interference with the key relationships that define the structure of the site</li> <li>○ Interference with key relationships that define the function of the site</li> </ul>	<p>Interference with key relationships that define the function of the site: The function of the SAC is not impacted by the operation of the facilities within the three catchments.</p>
<p>Describe from the above those elements of the project of plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.</p>	<p>No significant impacts are predicted.</p>

3. Finding of No Significant Effects Report Matrix

<p>Name of project or plan</p>	<p>Ballincurrig &amp; Lisgoold WWTP's</p>
<p>Name and location of Natura 2000 site</p>	<p>Cork Harbour The Great island Channel Special Area of Conservation, SAC</p>
<p>Description of the project or plan</p>	<p>The Ballincurrig &amp; Lisgoold Agglomeration can be split up into 3 catchments, each served by a septic tank or WWTP.</p> <p>Catchment 1</p> <ul style="list-style-type: none"> <li>• The first catchment (Ballincurrig village) is served by a septic tank .</li> </ul> <p>Catchment 2</p> <p>The second catchment consists of the Northern half of Lisgoold. The Old WWTP in Lisgoold serves this catchment. These sewers are a combined system.</p> <p>Catchment 3</p> <p>The third catchment consists of the Southern half of Lisgoold. The New WWTP in Lisgoold was built to serve The Cois na Curra housing estate.</p> <p>As the Cois na Curra Estate has only been partially built, the WWTP is not operational yet. It is currently functioning as a holding tank.</p>

Is the project or plan directly connected with or necessary to the management of the site (provide details)?	No
<b>The assessment of significance of effects</b>	
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 Site.	Refer to Section F pages 27 and 28 in application form.
Explain why these effects are not considered significant.	<p>The effluent from the septic tank and both WWTP'S is discharging to a large well-exchanged body of water where dilution and dispersion potential is high. No significant impacts are evident or predicted on species for which the SAC is designated.</p> <p>Available water quality data from EPA for Cork Harbour (2009) and Marine Institute (2010) both show a body of water that is in compliance both with water quality and shellfish designation standards. Refer to application form pages 27 and 28.</p>
List of agencies consulted: provide contact name and telephone or email address	Birdwatch Ireland – Data request.
Response to consultation	Birdwatch Ireland sent on Bird count data.

<b>Data collected to carry out the assessment</b>			
Who carried out the assessment	Sources of data	Level of assessment completed	Where can the full results of the assessment be accessed and viewed
Mahmoud Shaladan and Madeleine Healy of Cork County Council	IWebs Bird Data supplied by BirdWatch Ireland ,  EPA Cork Harbour water quality monitoring  Marine Institute Cork Harbour Shellfish designated waters – monitoring data.	Desktop review of cited data.	This report.

--	--	--	--

Question 2 Confirm the design capacity of the waste water treatment plant and the current population equivalent (PE) being treated at the plant. Confirm current PE includes the maximum average weekly loading for the agglomeration having taken into account local festivals , peak holiday seasons ,etc.

The final effluent from Ballincurrig septic tank discharges to the Ballinhassig\_1 groundwater body. The average inflow to the plant is in the order of 34m<sup>3</sup>/day which is equivalent to a PE of 150.

The final effluent from the Old WWTP in Lisgoold discharges to the Ballinhassig\_1 groundwater body. The average inflow to the plant is in the order of 28m<sup>3</sup>/day which is equivalent to a PE of 125.

The final effluent from the New WWTP in Lisgoold discharges to the Owennacurra River. The potential average inflow to the plant is in the order of 28m<sup>3</sup>/day which is equivalent to a PE of 125.

The above loading have been calculated on the basis of full occupancy of all dwellings within the agglomeration. An additional 10% has also been added on top of the calculated figures, therefore these quoted are the maximum loading figures.

Question 3 Provide a revised drawing clearly detailing the boundary of the agglomeration to which this application relates. Please note that the agglomeration boundary shall include all areas serviced by the sewer network and shall include the waste treatment plant. All areas of the agglomeration shall be connected by the agglomeration body. Refer to Drawing No. B1\_Map3 revised



## Cork Harbour

Species	1% National	1% International	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Mean (03-07)	Peak (03-07)
Mute Swan	110	110	46	42	25	15	42	56	71	54	73	68	64	73
Bewick's Swan	20	200	6					2					0	2
Whooper Swan	130	210			12	14	12	15	7			3	5	15
Black Swan			3								2		0	2
Pink-footed Goose		2,250			1							2	0	2
Greenland White-fronted Goose	110	270			1								0	0
Greylag Goose	50	870			3	4	4	1	1	3	1	6	2	6
Canada Goose			10	6	13	8	2	21	23	11	13	22	18	23
Light-bellied Brent Goose	220	260			4		6	12	16	26	11	17	16	26
Feral/hybrid Goose									2			5	1	5
Shelduck	150	3,000	1,875	1,870	722	1,108	1,903	1,946	1,391	1,350	918	823	1,286	1,946
Wigeon	820	15,000	1,683	1,402	1,272	1,519	1,937	2,926	2,043	2,332	1,492	1,259	2,010	2,926
Gadwall	20	600	4		6	8	6	17	13	13	7		10	17
Green-winged Teal					1	1							0	0
Teal	450	5,000	778	1,214	1,139	1,079	1,492	1,611	1,169	1,302	667	644	1,079	1,611
Mallard	380	20,000	671	572	431	362	489	539	628	406	423	484	496	628
Pintail	20	600	52	41	2	7	73	46	20	14	2		16	46
Shoveler	25	400	103	148	74	48	103	33	24	45	62	51	43	62
Red Crested Pochard			1										0	0
Pochard	380	3,500	38	11	19	21	27	18	7	7	2	3	7	18
Ring-necked Duck							1						0	0
Tufted Duck	370	12,000	34	20	46	36	29	33	14	14	19	16	19	33
Scaup	45	3,100	2							2			0	2
Long-tailed Duck		20,000					2						0	0
Eider	30	12,830						1		15	1		3	15
Common Scoter	230	16,000		2			1	1	3	7		1	2	7
Surf Scoter			2										0	0
Velvet Scoter												3	1	3
Goldeneye	95	11,500	18	14	18	28	11	14	7	10	5	14	10	14
Red-breasted Merganser	35	1,700	110	128	64	77	95	88	85	80	68	72	79	88
Red-throated Diver	20	3,000								1	1		0	1
Black-throated Diver		3,750											0	0
Great Northern Diver		50	1	8	3	1	1	1			4	3	2	4
Pied-billed Grebe			1										0	0

The counts presented in the table refer to the peak counts of species in each I-WeBS season.

Site peak and mean are calculated as the peak and mean of peak counts respectively over the seasons specified. Blank cells within columns which contain positive values for one or more species constitute zero for those species.



Little Grebe	25	4,000	56	50	58	59	60	88	80	69	58	65	72	88
Great Crested Grebe	55	3,600	166	218	171	287	240	132	105	137	63	106	109	137
Slavonian Grebe		55	4		1			3	1	2			1	3
Black-necked Grebe			3	3	2	2							0	0
Cormorant	140	1,200	283	556	244	392	326	357	370	308	163	285	297	370
Shag									2		2	8	2	8
Little Egret		1,300	20	18	27	39	61	83	166	126	143	151	134	166
Grey Heron	30	2,700	54	61	114	57	97	68	135	76	84	72	87	135
Spoonbill												1	0	1
Water Rail			3	3		1	1	1	2	2	2	2	2	2
Moorhen	20		28	21	21	19	24	46	24	33	55	25	37	55
Coot	330	17,500	34	96	24	13	26	31	23	16	19	7	19	31
Oystercatcher	680	10,200	1,584	1,421	1,698	1,061	1,570	2,021	1,857	2,076	1,061	1,590	1,721	2,076
Ringed Plover	150	730	59	52	78	66	28	68	25	67	17	27	41	68
Golden Plover	1,700	9,300	3,000	3,432	4,009	6,888	4,262	5,102	6,200	3,002	3,266	5,232	4,560	6,200
Grey Plover	65	2,500	72	44	5	6	108	37	4	24	12	39	23	39
Lapwing	2,100	20,000	4,386	4,116	7,267	2,816	4,176	4,864	4,133	4,096	3,321	3,321	3,947	4,864
Knot	190	4,500	16	17	80	79	306	114	85	117	124	111	110	124
Sanderling	65	1,200					135	350		33			77	350
Curlew Sandpiper				15		2	1		3	4	1		2	4
Dunlin	880	13,300	8,277	8,240	6,632	5,755	3,979	4,785	4,325	3,874	4,456	3,579	4,204	4,785
Ruff		12,500		1			1	1		1		3	1	3
Snipe		20,000	43	47	5	20	20	54	14	49	32	75	45	75
Long-billed Dowitcher						1	1						0	0
Black-tailed Godwit	140	470	2,508	1,692	1,645	2,128	3,162	1,518	2,937	3,337	1,433	2,823	2,410	3,337
Bar-tailed Godwit	160	1,200	16	52	351	419	477	405	298	218	383	257	312	405
Whimbrel		2,000	2	1		1	1	3	1	4	1	1	2	4
Curlew	550	8,500	2,927	2,223	1,297	1,329	1,817	1,083	2,317	1,809	1,363	1,607	1,636	2,317
Common Sandpiper			3	3	1	2	2	2	2	2	1	4	2	4
Green Sandpiper			2	1		1	1	1	1	1			1	1
Spotted Redshank		900	3	2	1	1	2	1	2	1	1	1	1	2
Greenshank	20	2,300	46	61	31	25	60	47	83	68	72	71	68	83
Redshank	310	3,900	2,243	2,269	1,005	1,138	2,170	1,591	2,295	1,543	1,459	1,725	1,723	2,295
Turnstone	120	1,500	166	146	93	66	145	131	161	136	129	214	154	214
Mediterranean Gull			5	7	1	2	12	11	13	15	24	48	22	48
Sabine's Gull								1					0	1
Bonaparte's Gull											1		0	1
Black-headed Gull		20,000	2,493	1,609	2,288	1,180	1,811	2,954	2,170	2,627	2,010	2,103	2,373	2,954

The counts presented in the table refer to the peak counts of species in each I-WeBS season. Site peak and mean are calculated as the peak and mean of peak counts respectively over the seasons specified. Blank cells within columns which contain positive values for one or more species constitute zero for those species.



Ring-billed Gull		2	3	2	1		1	1				0	1
Common Gull	16,000	676	378	1,264	1,725	459	200	290	188	214	207	220	290
Lesser Black-backed Gull	4,500	753	118	177	106	63	254	496	31	630	72	297	630
Herring Gull	13,000	53	68	36	16	37	32	36	40	123	51	56	123
Iceland Gull			1	1								0	0
Glaucous Gull											1	0	1
Great Black-backed Gull	4,800	120	238	141	76	110	150	385	157	137	98	185	385
Unidentified gull					2,123							0	0
Sandwich Tern		2	12	2	34	5		2	225	2	17	49	225
Common Tern			18			2	1		1	1	1	1	1
Arctic Tern											1	0	1
Unidentified Tern							3					1	3
Kingfisher			1	1	2	1	3	3	3	1	2	2	3

For inspection purposes only.  
Consent of copyright owner required for any other use.

The counts presented in the table refer to the peak counts of species in each I-WeBS season. Site peak and mean are calculated as the peak and mean of peak counts respectively over the seasons specified. Blank cells within columns which contain positive values for one or more species constitute zero for those species.



## Saleen

Species	1% National	1% International	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Mean (03-07)	Peak (03-07)
Mute Swan	110	110	1	2	2	2	1	1		3			1	3
Canada Goose									13				3	13
Light-bellied Brent Goose	220	260			4								0	0
Shelduck	150	3,000	59	75	42	52	30	41	60	44	34	29	42	60
Wigeon	820	15,000	129	95	122	73	173	102	97	179	149	124	130	179
Green-winged Teal							1						0	0
Teal	450	5,000	72	101	81	168	199	223	188	248	184	226	214	248
Mallard	380	20,000	29	26	28	56	41	46	39	46	91	82	61	91
Shoveler	25	400					4	7		4			2	7
Goldeneye	95	11,500		2									0	0
Red-breasted Merganser	35	1,700			2	8	8	9	2	1	2		3	9
Red-throated Diver	20	3,000								1			0	1
Black-throated Diver		3,750											0	0
Little Grebe	25	4,000	11	13	9	11		9	5	8	14	8	9	14
Great Crested Grebe	55	3,600	13	6	5	8	6	16	7	13	4	5	9	16
Slavonian Grebe		55			1								0	0
Cormorant	140	1,200	7	7	6	4	6	3	6	6	7	7	6	7
Little Egret		1,300	9	4	7	10	10	10	23	17	17	18	17	23
Grey Heron	30	2,700	7	4	8	6	5	7	6	6	4	5	6	7
Moorhen	20						2			1			0	1
Oystercatcher	680	10,200	129	172	136	150	175	147	135	137	94	176	138	176
Ringed Plover	150	730	14		14		19		13	41			11	41
Lapwing	2,100	20,000	36	8	7	2		2	12		1		3	12
Knot	190	4,500								5		1	1	5
Curlew Sandpiper				9									0	0
Dunlin	880	13,300	256	31	26	10	164	28	64	6	37	54	38	64
Ruff		12,500										1	0	1
Snipe		20,000						2	6	2	5	1	3	6
Long-billed Dowitcher							1						0	0
Black-tailed Godwit	140	470	61	22	16	55	75	52	121	72	129	101	95	129
Bar-tailed Godwit	160	1,200	1	2	4	4	2	1	13	5	1	1	4	13
Whimbrel		2,000				1	1						0	0
Curlew	550	8,500	121	81	82	89	96	91	103	90	115	152	110	152
Common Sandpiper										1	1		0	1

The counts presented in the table refer to the peak counts of species in each I-WeBS season.

Site peak and mean are calculated as the peak and mean of peak counts respectively over the seasons specified. Blank cells within columns which contain positive values for one or more species constitute zero for those species.





Spotted Redshank		900	3	2							1	0	1	
Greenshank	20	2,300	8	10	13	11	12	4	9	12	8	10	9	12
Redshank	310	3,900	123	106	135	129	116	116	144	126	173	161	144	173
Turnstone	120	1,500	61	26	52	33	35	12	26	73	54	17	36	73
Mediterranean Gull						1		4	4	5	6	48	13	48
Bonaparte's Gull											1		0	1
Black-headed Gull		20,000	190	177	167	107	176	57	187	184	221	212	172	221
Ring-billed Gull					1								0	0
Common Gull		16,000	7	47	41	88	264	39	103	21	65	84	62	103
Lesser Black-backed Gull		4,500	7	42	3	77	1	1	2	1	5	9	4	9
Herring Gull		13,000	2	3	4	1	6	3	7	3	5	3	4	7
Great Black-backed Gull		4,800	1	4	1	14	4	9	8	4	3	4	6	9
Sandwich Tern				2		22			2	6		3	2	6
Kingfisher					1		1		1	1	1	1	1	1

For inspection purposes only.  
Consent of copyright owner required for any other use.

The counts presented in the table refer to the peak counts of species in each I-WeBS season. Site peak and mean are calculated as the peak and mean of peak counts respectively over the seasons specified. Blank cells within columns which contain positive values for one or more species constitute zero for those species.



## Owenboy Estuary

Species	1% National	1% International	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Mean (03-07)	Peak (03-07)
Mute Swan	110	110	5	2	2				2			4	2	4
Feral/hybrid Goose									2				1	2
Shelduck	150	3,000	111	122	97		167	206	141	76		45	117	206
Wigeon	820	15,000	13										0	0
Teal	450	5,000	88	50	5		80	50	75	29		25	45	75
Mallard	380	20,000	58	49	36		51	115	77	18		49	65	115
Red-breasted Merganser	35	1,700	15	5			12	12	7	9		3	8	12
Little Grebe	25	4,000					1					7	2	7
Great Crested Grebe	55	3,600						1				1	1	1
Cormorant	140	1,200	10	38	20		9	8	6	1		5	5	8
Little Egret		1,300		1				1	6			8	4	8
Grey Heron	30	2,700	4	6	18		6	13	12	6		11	11	13
Oystercatcher	680	10,200	119	54	40		91	80	82	27		105	74	105
Ringed Plover	150	730			6								0	0
Golden Plover	1,700	9,300	450	60	1,050								0	0
Lapwing	2,100	20,000	426	200	150		150	30	117	73		94	79	117
Knot	190	4,500			1				16			10	7	16
Curlew Sandpiper									1				0	1
Dunlin	880	13,300	460	115	55		120	63	170	107		125	116	170
Snipe		20,000		8				3		10		1	4	10
Black-tailed Godwit	140	470	75	194	146		210	100	233			250	146	250
Curlew	550	8,500	98	85	99		54	39	51	31		83	51	83
Common Sandpiper								1	1			2	1	2
Greenshank	20	2,300	4	9	2		30	12	23	17		11	16	23
Redshank	310	3,900	138	92	152		150	148	280	120		370	230	370
Turnstone	120	1,500	10	4			20	20	76	10		10	29	76
Black-headed Gull		20,000	397	156	147		80	200	226	253		305	246	305
Common Gull		16,000	82	90	65		80	50	50	90		183	93	183
Lesser Black-backed Gull		4,500	158	15					40			51	23	51
Herring Gull		13,000	6		1		5		2			17	5	17
Iceland Gull					1								0	0
Great Black-backed Gull		4,800	5	1	2		8		20			3	6	20
Sandwich Tern												2	1	2
Kingfisher							1						0	0

The counts presented in the table refer to the peak counts of species in each I-WeBS season.

Site peak and mean are calculated as the peak and mean of peak counts respectively over the seasons specified. Blank cells within columns which contain positive values for one or more species constitute zero for those species.



For inspection purposes only.  
Consent of copyright owner required for any other use.

The counts presented in the table refer to the peak counts of species in each I-WeBS season. Site peak and mean are calculated as the peak and mean of peak counts respectively over the seasons specified. Blank cells within columns which contain positive values for one or more species constitute zero for those species.

Appendix 4: Bird Count Data, Saleen Creek and Cork Harbour 1998/1009 - 2007/2008 from I-WeBS

			1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002	2002/2003	2003/2004	2004/ 2005	2005/ 2006	2006/ 2007	2007 /2008	Saleen		Cork Harbour		% of mean total occurring at Saleen	% of peak total occurring at Saleen
	National	Internati-onal											Mean	Peak	Mean	Peak		
Mute Swan	110	110	1	2	2	2	1	1		3			1	3	64	73	1.56	4.11
Canada Goose									13				3	13	18	23	17	57
Shelduck	150	3,000	59	75	42	52	30	41	60	44	34	29	42	60	1,286	1,946	3.27	3.08
Wigeon	820	15,000	129	95	122	73	173	102	97	179	149	124	130	179	2,010	2,926	6.46	6.11
Teal	450	5,000	72	101	81	168	199	223	188	248	184	226	214	248	1,079	1,611	19.83	15.39
Mallard	380	20,000	29	26	28	56	41	46	39	46	91	82	61	91	496	628	12.3	14.49
Shoveler	25	400					4	7		4			2	7	43	62	4.65	11.29
Red- breasted Merganser	35	1,700			2	8	8	9	2	1	2		3	9	79	88	3.8	10.22
Red-throated Diver	20	3,000								1			0	1	0	1	0	100
Little Grebe	25	4,000	11	13	9	11	9	9	5	8	14	8	9	14	72	88	12.5	15.9
Great Crested Grebe	55	3,600	13	6	5	8	6	16	7	13	4	5	9	16	109	137	8.25	11.68
Cormorant	140	1,200	7	7	6	4	6	3	6	6	7	7	6	7	297	370	2.02	1.89
Little Egret		1,300	9	4	7	10	10	10	23	17	17	18	17	23	134	166	12.68	13.86
Grey Heron	30	2,700	7	4	8	6	5	7	6	6	4	5	6	7	87	135	6.9	5.18
Moorhen	20						2			1			0	1	37	55	0	1.81
Oystercatch er	680	10,200	129	172	136	150	175	147	135	137	94	176	138	176	1,721	2,076	8.02	8.48
Ringed Plover	150	730	14		14		19		13	41			11	41	41	68	26.83	60.29
Lapwing	2,100	20,000	36	8	7	2		2	12		1		3	12	3,947	4,864	0.08	0.25
Knot	190	4,500								5		1	1	5	110	124	0.9	4.03
Dunlin	880	13,300	256	31	26	10	164	28	64	6	37	54	38	64	4,204	4,785	0.09	1.34
Ruff		12,500										1	0	1	1	3	0	33
Snipe		20,000					2	6	2	5		1	3	6	45	75	6.67	1.33
Black-tailed Godwit	140	470	61	22	16	55	75	52	121	72	129	101	95	129	2,410	3,337	3.94	3.87
Bar-tailed Godwit	160	1,200	1	2	4	4	2	1	13	5	1	1	4	13	312	405	1.28	3.2
Curlew	550	8,500	121	81	82	89	96	91	103	90	115	152	110	152	1,636	2,317	6.72	6.56
Common Sandpiper										1	1		0	1	2	4	0	25
Spotted Redshank		900	3	2								1	0	1	1	2	0	50
Greenshank	20	2,300	8	10	13	11	12	4	9	12	8	10	9	12	68	83	13.23	14.46

For inspection purposes only.  
Consent of copyright owner required for any other use.

Redshank	310	3,900	123	106	135	129	116	116	144	126	173	161	144	173	1,723	2,295	8.35	7.54
Turnstone	120	1,500	61	26	52	33	35	12	26	73	54	17	36	73	154	214	23.38	34.11
Mediterranean Gull						1		4	4	5	6	48	13	48	22	48	59	100
Bonaparte's Gull										1				1	0	1	0	100
Black-headed Gull	20,000		190	177	167	107	176	57	187	184	221	212	172	221	2,373	2,954	7.25	7.48
Common Gull	16,000		7	47	41	88	264	39	103	21	65	84	62	103	220	290	28.18	35.51
Lesser Black-backed Gull	4,500		7	42	3	77	1	1	2	1	5	9	4	9	297	630	1.35	1.43
Herring Gull	13,000		2	3	4	1	6	3	7	3	5	3	4	7	56	123	7.14	5.69
Great Black-backed Gull	4,800		1	4	1	14	4	9	8	4	3	4	6	9	185	385	3.24	2.33
Sandwich Tern				2		22			2	6		3	2	6	49	225	4.08	2.66
Kingfisher					1		1		1	1	1	1	1	1	2	3	50	33.33

For inspection purposes only.  
Consent of copyright owner required for any other use.