DixonBrosnan

environmental consultants

Project	**Appropriate Assessment Screening Report in respect of Industrial Emissions Licence P0947-01 technical amendment for Stauntons Foods, Timoleague, Co. Cork**		
Client	**Staunton's Foods Ltd**		
Project ref	**Report no**	**Client ref**	
17104.4	17104.4		

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1. Introduction

An Appropriate Assessment (AA) Screening was undertaken by DixonBrosnan Environmental Consultants on behalf of Staunton's Foods Ltd to determine the potential impacts, if any, of the proposed development on nearby sites with European conservation designations (i.e. Natura 2000 sites).

1.1 Purpose of this Report

The purpose of this Appropriate Assessment Screening Report is to determine, the appropriateness, or otherwise, of the proposed development with respect to any direct or indirect impacts on nearby Natura 2000 sites in the context of their conservation status. This report identifies whether the proposed development is likely to have a significant effect on Natura 2000 site(s).

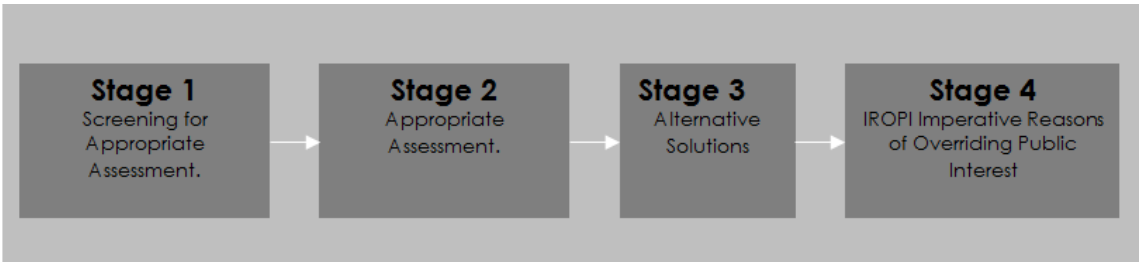
2. Background and legislative context

Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter 'the Habitats Directive') requires that, any plan or project not directly connected with or necessary to the management of a designated site, but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. For the purposes of the application for permission in respect of the proposed project, the requirements of Article 6(3) have been transposed into Irish law by Part XAB of the Planning and Development Act 2000, as amended.

The possibility of there being a significant effect on a designated or "European" site will generate the need for an appropriate assessment to be carried out by the competent authority for the purposes of Article 6(3). As set out in Section 177U of the Planning and Development Act 2000 as amended, a screening for appropriate assessment of an application for consent for the proposed development must be carried out by the competent authority to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on any European site. A Stage Two Appropriate Assessment is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site. The first (Screening) Stage for appropriate assessment operates merely to determine whether a (Stage Two) Appropriate Assessment must be undertaken on the implications of the plan or project for the conservation objectives of relevant European sites.

2.2 Appropriate Assessment Procedure

The assessment requirements of Article 6(3) establish a stage-by-stage approach. This assessment follows the stages outlined in the 2001 European Commission publications "Assessment of plans and projects significantly affecting Natura 2000 sites: methodological guidance on the provisions of Articles 6(3) and 6(4) of the Habitats Directive 92/43/EEC" (2001) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (Draft) Office for Official Publications of the European Communities, Luxembourg (EC, 2015);



The stages are as follows:

Stage One: Screening — the process which identifies any appreciable impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant;

Stage Two: Appropriate assessment — the consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage Three: Assessment of alternative solutions: The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site. It is confirmed that no reliance is placed by the developer on Stage Three in the context of this application for development consent;

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain — an assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed (it is important to note that this guidance does not deal with the assessment of imperative reasons of overriding public interest). Again, for the avoidance of doubt, it is confirmed that no reliance is placed by the developer on Stage Four in the context of this application for development consent

Documentation/guidelines of relevance to this screening report include the following:

- 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. Office for Official Publications of the European Communities, Brussels (EC, 2001);
- European Commission, 2000a. Communication from the Commission on the Precautionary Principle., Office for Official Publications of the European Communities, Luxembourg (EC, 2000a);
- Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (Draft) Office for Official Publications of the European Communities, Luxembourg (EC, 2015);
- Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2000)
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of

overriding public interest, compensatory measures, overall coherence, opinion of the commission; (EC, 2007);

- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin (DEHLG, 2010a);
- Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities (DEHLG, 2010b);
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013);

3. Methodology

3.1 Study Area and Scope of Appraisal

In line with the precautionary principle, the study area for the preparation of this Stage One Screening Report extended to a radius of 15km from the applicant's site boundary. Thus, any appreciable direct, indirect or cumulative impacts which could arise from the proposed development in relation to the designated sites within this zone were considered. Given the limited scale of this proposed development, any adverse impacts on Natura 2000 sites are considered highly unlikely.

3.2 Desktop Study

A desktop review facilitates the identification of the baseline ecological conditions and key ecological issues relating to Natura 2000 sites and facilitates an evaluation assessment of potential in-combination impacts. Sources of information used for this screening report include previous reports prepared for the Timoleague area, information from statutory and non-statutory bodies. The sources of information and relevant documentation utilised are as follows:

- National Parks & Wildlife Service (NPWS) - www.npws.ie including qualifying interests and conservation objectives for Natura 2000 sites.
- Environmental Protection Agency (EPA) – www.epa.ie
- BirdWatch Ireland - http://www.birdwatchireland.ie/
- National Biodiversity Data Centre – www.biodiversityireland.ie
- County Cork Biodiversity Action Plan 2009 - 2014
- Environmental Impact Statement: Staunton Foods Ltd. facility at Spital Cross, Timoleague, Bandon, Co. Cork. (DixonBrosnan, 2013).
- Ecology screening report (Habitats Directive) in support of additional development at Staunton's Foods facility at Spital Cross, Timoleague, Co. Cork. (Dixon Brosnan, 2016
- Natura Impact Statement (Stage 2 Appropriate Assessment) in support of an Industrial Emissions (IE) License for Staunton's Foods facility at Spital Cross, Timoleague, Co. Cork (DixonBrosnan, 2015)

3.3 Author of Report for Screening and Appropriate Assessment

This ecological screening report provides the relevant ecological information on the proposed project to assist the relevant Planning Authority to screen the project, to determine if an Appropriate Assessment is required and ultimately to make a determination in relation to the likely impact on Natura 2000 sites. This report was prepared by Carl Dixon MSc. (Ecological Monitoring) who has worked on Screening/NIS's for a range of small and large-scale projects, including assessments of aquatic impacts.

4. Screening of proposed development

4.1 Description of the project

A new effluent treatment plant is being constructed at Staunton's Foods facility at Spital Cross, Timoleague, Co. Cork. The Staunton Foods Ltd. facility occupies a 2.2 ha rectangular plot, with the longer axis running in a north-south direction and is located approximately 1.1 km from Timoleague village. Local primary road L4021 forms the western boundary of the site. The northern boundary is formed by a local secondary road which meets the L4021 at Spital Cross. The eastern boundary is formed by Spital Stream, a large stream which drains much of the Barryroe area, running northwards to meet the estuary at Timoleague. The majority of the site is covered by the main building complex and associated hard-standing areas. These areas include a carpark near the northwest corner, the pig unloading and weighbridge area, refrigerated truck loading and parking areas at the south of the site, and a paved roadway circling the main building complex. A lower zone near the eastern boundary is occupied by several ancillary structures, including the onsite wastewater treatment plant (WWTP), utilities building, and fuel and liquid tanks. A new carpark was recently provided to the north of the existing facility and separated from it by a minor road.

The new WWTP is located to the north of an existing car park. The site is located in a rural area and the only local commercial development of significance consists of the Staunton Foods Ltd. facility itself. A summary of the new WWTP process is provided below and an overview of the development is provided below. Treated waste water from the current WWTP is discharged to the Spital stream adjacent to the existing facility; it is proposed that this discharge point will be retained. The new WWTP will give the applicant more effective control of the treatment process within a larger site and more up-to-date technology. The new WWTP is expected to improve the treatment capability of the Staunton's facility and no changes to the current discharge regime, as specified by EPA licence, are proposed.

4.1.1 Summary of proposed WWTP

5. Proposed surface water discharge

The entire surface area within the overall WWTP Plan area shall be finished in an impermeable concrete surface laid to falls. Surface water will be discharged via the existing surface water discharge point at SW3 as indicated in Appendix 2 A Surface water layout drawing is included as part of this submission (See Appendix 3). Indicated on same are the following.

a) Designated Dirty Area will fall towards the main yard sump which in turn will be pumped up to the balance tank.

b) Designated Clean Area will fall towards the concrete attenuation tank (250 cubes capacity), via class 1 by pass oil interceptor.

c) A concrete stub wall will be constructed to the perimeter of the site to provide for full containment (125% of the largest tank and 300mm fee board reserve).

d) A sloped entrance to the WWTP shall facilitate vehicle access to the treatment plant, an Eco drain shall be installed at the entrant, for complete containment.

Attenuation Tank & Control Methology

1. The attenuation tank is designed in accordance with Eurocode 2: Part 3 for Liquid Retaining and Containment Structures. The capacity of the tank meets the requirement of a 1 in 100-year storm of 600 min duration even; it also has an additional 25% freeboard capacity.

2. A duty and stand by pumped will be installed in the attenuation tank permitting a rising pumped discharge only.

3. The attenuation tank shall be pumped to Surface Water 3 on a 2 pump cycle period, where pumping will commence 60 minutes pre high tide, the pump cycle will be controlled through a Lunar time clock. It is intended to have a two hour discharge window with each tidal cycle.

Control methodology

Where Surface Water meets Discharge Parameters

4. At 5 minutes pre pumped discharge the Motorized Valve Ref No: MV1 shall close thus restricting flow from the surface water gullies from entering the attenuation tank. The pumping cycle shall then commence discharging the surface water to SW3.

5. Once the tank is empty (below the Low water Probe) the pump will cut out and MV1 will open, therefore allowing the attenuation tank to fill for the next pump cycle.

Where surface water does not meet the Discharge Parameters

6. In the event that the discharge does not meet the discharge limits the system shall go into a manual mode operated by Staunton's Environmental Manager. MV 2 shall go to a closed position with MV 3 opening; the pumps will be operated on a manual override discharging the contaminated water to include all water below the low level probe to Process Manhole 5 / Process Yard Sump - thus being pumped back to the Balance Tank.

Where the tank fills before the permitted discharge period

The attenuation tank has been designed from a capacity prospective to have an 25% addition freeboard capacity, however in the event it fills pre the permitted discharged period (1 hour prior to high tide) the following control measures will be adopted.

7. Where the attenuation tank fills to a level over the high level probe, MV 2 shall go to the closed position with MV 3 opening, a pumping cycle will commence

discharging the surface water to Process manhole 5 / Process Yard Sump - thus being pumped back to the Balance Tank. The pumps will cut out and return to standard protocol once the water level within the tank reaches the low water probe. [The attenuation tank will be allowed to re fill and discharge per normal cycle.

In the event of catastrophic Failure

In the event of catastrophic the following control mythology shall apply.

8. High and low level probes are fitted to each storage tank, in the event that a tank empties within a 5 minute time period (a catastrophic failure) - MV1 shall go to a closed position and the attenuation tank pump shall cut out and go to a manual operated position only.

9. In the event that there is a failure in a pump / pipe work connection, there is a failsafe built into the process control panel. In the event that the process controls reads a fault, similarly MV 1 will go to a close position and the attenuation tank pump shall cut out and go to a manual operated only.

Discharge from the Attenuation Tank to SW3

a) Surface water within the Attenuation Tank will be subject to continuous monitoring pre discharge.(pH)

4.2 Designated sites

Natura 2000 sites within a 10km radius of the proposed development site are listed below in **Table 1**. It is noted that use of a 10km radius is a precautionary measure, as impacts at this distance from the new WWTP are highly unlikely in the absence of significant emissions to the environment. The Courtmacsherry Estuary SAC (site code 1230), Courtmacsherry Bay SPA (Site code 004219) and pNHA (Site code 001230) overlap adjacent to the new WWTP site as shown in **Figure 1.** A full site synopsis for the SAC and SPA are shown below. Given the limited scale of the proposed development, the lack of a hydrological connection and the distances involved the potential impact on other designated sites is considered negligible.

Table 1. Protected sites within 10km.

Site	Code	Distance
SAC		
Courtmacsherry Estuary	001230	Development adjoins this site
Clonakilty Bay	000091	5.9km SW
SPA		
Courtmacsherry Bay SPA	004219	Development adjoins this site
Seven heads SPA	004191	4.7km S
Clonakilty Bay SPA	004081	5.9km SW
Galley Head to Duneen Point	004190	9.3km SSW
pNHA		
Courtmacsherry Estuary	001230	Development adjoins this site
Seven Heads And Dunworly Bay	001077	3.0km S
Clonakilty Bay	000091	5.9km SW
Gallanes Lough	001052	7.1km W
Bateman's Lough	001037	7.0km NW

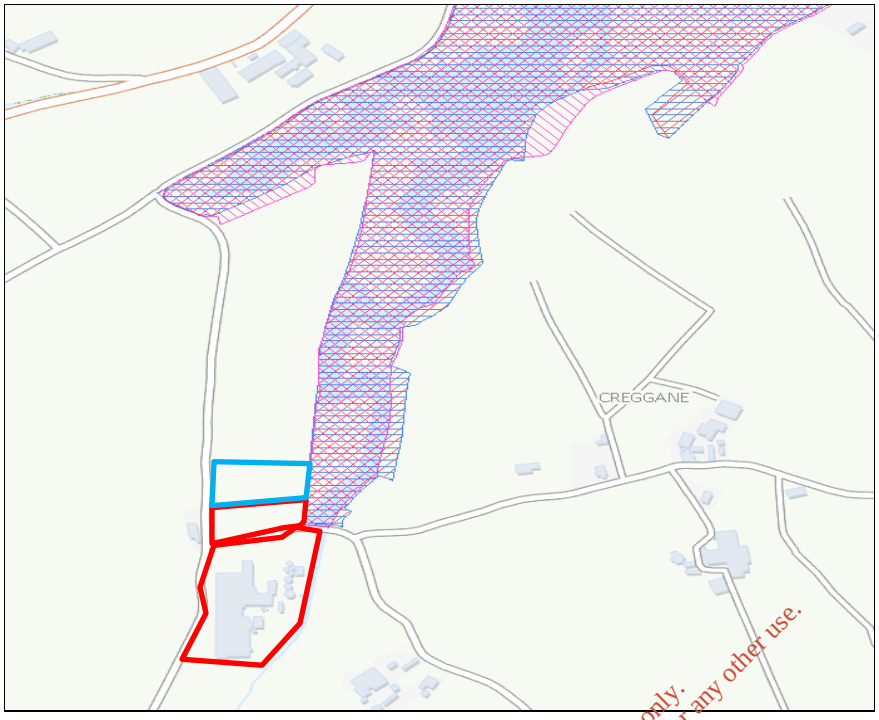


Figure 1 . Staunton's facility boundary and new car park area (developed in 2015) outlined in red and new effluent treatment plant outlined in blue in relation to the SAC and SPA in the hatched area. Areas are approximate.

4.3 Natura 2000 sites – Site synopses.

4.3.1 Courtmacsherry Estuary SAC

This site is located in west Cork, some 12 km south of Bandon and immediately east of the village of Timoleague. The estuary consists of the drowned valley of the Argideen River, which is now filled with sediments, resulting in an extensive area of mudflats. The site contains a complex of coastal habitats, including ten which are listed in the E.U. Habitats Directive. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [1210] Annual Vegetation of Drift Lines
- [1220] Perennial Vegetation of Stony Banks
- [1310] Salicornia Mud
- [1330] Atlantic Salt Meadows
- [1410] Mediterranean Salt Meadows
- [2110] Embryonic Shifting Dunes
- [2120] Marram Dunes (White Dunes)
- [2130] Fixed Dunes (Grey Dunes)*

The greater part of this estuary site is mudflat and tidal channels, but three rivers flow into the site and areas of fresh- and saltmarsh are found. Most of the mudflat at Courtmacsherry is unvegetated, although in places cord-grass (Spartina sp.) occurs.

Saltmarsh has developed in a number of areas, with the most abundant species being Sea Club-rush (Scirpus maritimus), Common Scurvygrass (Cochlearia officinalis), Sea Arrowgrass (Triglochin maritima), Sea Plantain (Plantago maritima), Thrift (Armeria maritima) and Saltmarsh Rush (Juncus gerardi). On the outer edges such species as Greater Sea-spurrey (Spergularia media), Lesser Sea-spurrey (S. marina) and Laxflowered Sea-lavender (Limonium humile) occur, while on their landward edge the saltmarshes frequently support Creeping Bent (Agrostis stolonifera), Red Fescue (Festuca rubra), Silverweed (Potentilla anserina), Soft Rush (Juncus effusus), Common Sorrel (Rumex acetosa) and others. A particularly well-developed and intact saltmarsh occurs at Garranefeen Strand.

Tideline communities of Sea Rocket (Cakile maritima) and oraches (Atriplex spp.), including Grass-leaved Orache (A. littoralis), are noted from this site. In stony areas east of Courtmacsherry the uncommon Sea-kale (Crambe maritima) occurs, and Yellow Horned-poppy (Glaucium flavum) has also been recorded. Glasswort (Salicornia spp.) communities have been recorded from Garranefeen inlet.

The site also supports small but interesting sand dune systems. Embryonic dunes occur in a number of places, including Garranefeen, Flaxford Strand and near Courtmacsherry, and the species Sand Couch (Elymus farctus) occurs. Marram dunes are well developed on the eastern spit at Garranefeen inlet. Species present include Sea Bindweed (Calystegia soldanella), Sea-spurge (Euphorbia paralias) and Sand Couch. Fixed dunes are not particularly well developed at this site, but where present, support species such as Red Fescue, Common Restharrow (Ononis repens), Kidney Vetch (Anthyllis vulneraria), Pyramidal Orchid (Anacamptis pyramidalis) and Lady's Bedstraw (Galium verum).

The site also includes small areas of sand dune, sandy and shingle beaches, reedbeds of Common Reed (Phragmites australis), scrub, dry grassland, and areas of both wet and dry semi-natural broadleaved woodland, parts of which are dominated by oak (Quercus sp.).

The presence of some rare and scarce plant species at the site is noteworthy. The rare Red Data Book species Sea-kale occurs on shingle and the scarce grass, Tor-grass (Brachypodium pinnatum), has been recorded on cliffs between Broadstrand and Wood Point.

The site is of ornithological importance for the many waders and wildfowl that feed on the mud- and sandflats. The winter flocks of Golden Plover (2,600) and BlackTailed Godwit (110) constitute nationally important numbers, and at least nine other species occur in numbers which are significant for the region - Wigeon (58), Mallard (69), Red-breasted Merganser (18), Oystercatcher (162), Lapwing (629), Dunlin (215), Bar-tailed Godwit (178), Curlew (731) and Redshank (139). Although these figures are the average peaks of 4 counts between 1984/85 and 1986/87, at times the numbers present far exceed those given. For example, in January 1992, 5,800 Golden Plover, 671 Wigeon, 731 Dunlin and 456 Oystercatchers were present.

The spread of cord-grass on parts of the mudflats poses a threat to the quality of the area for feeding birds, and pollution is an ever-present threat in such a wetland.

Courtmacsherry Estuary is an important site for the complex of coastal habitats found there, including ten listed on Annex I of the E.U. Habitats Directive, and for the large numbers of birds that use the area. The presence of rare and scarce plant species adds further interest and value to the site.

4.3.2 Courtmacsherry Bay SPA

Courtmacsherry Bay SPA is located approximately 12 km south of Bandon and immediately east of the village of Timoleague in west Co. Cork. The site, which is largely estuarine in nature, consists of the drowned valley of the Argideen River which is now filled with sediments, resulting in extensive mudflats and areas of saltmarsh. The estuary of the Kilbrittain River in the north-east of the site holds an area of well-developed saltmarsh. The seaward boundary for the site stretches from Coolmain Point to Barry Point, and includes Coolmain Bay and Broadstrand Bay.

Most of the mudflats are unvegetated, although in places Cord-grass (Spartina anglica) occurs. Saltmarsh has developed in a number of areas, the abundant species mostly being Sea Club-rush (Scirpus maritimus), Common Scurvygrass (Cochlearia officinalis), Sea Arrowgrass (Triglochin maritima), Sea Plantain (Plantago maritima), Thrift (Armeria maritima) and Saltmarsh Rush (Juncus gerardi).

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Great Northern Diver, Shelduck, Wigeon, Red-breasted Merganser, Golden Plover, Lapwing, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Black-headed Gull and Common Gull. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is of ornithological importance for the wintering waders and wildfowl that feed on the mudflats. It supports internationally important numbers of Black-tailed Godwit (506 - figures given here and below are mean peaks for the five winters in the period 1995/96 to 1999/00), as well as nationally important numbers of a further eleven species, i.e. Great Northern Diver (27), Shelduck (175), Wigeon (934), Redbreasted Merganser (63), Golden Plover (5,759), Lapwing (2,713), Dunlin (1,353), Bar-tailed Godwit (182), Curlew (1,357), Black-headed Gull (2,727) and Common Gull (2,226). Other species which occur include Oystercatcher (610), Redshank (227) and Greenshank (26).

Courtmacsherry Bay SPA is an important site for wintering birds. It holds internationally important numbers of Black-tailed Godwit and nationally important numbers of a further eleven species, including three that are listed on Annex I of the E.U. Birds Directive, i.e. Great Northern Diver, Golden Plover and Bar-tailed Godwit.

4.4 Natura 2000 sites – Features of interests and conservation objectives.

The EU Habitats Directive contains a list of habitats (Annex I) and species (Annex II) for which SACs must be established by Member States. Similarly, the EU Birds Directive contains lists of important bird species (Annex I) and other migratory bird species for which SPAs must be established. Those that are known to occur at a site are referred to as ‘qualifying interests’ and are listed in the Natura 2000 forms which are lodged with the

EU Commission by each Member State. A 'qualifying interest' is one of the factors (such as the species or habitat that is present) for which the site merits designation. The National Parks and Wildlife Service (NPWS) are responsible for the designation of SACs and SPAs in Ireland.

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status sites designated as Special Areas of Conservation and Special Protection Areas. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. Favourable conservation status of a habitat is achieved when its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis. The species and habitats listed as qualifying interests for Courtmacsherry Estuary SAC (site code 001230) and Courtmacsherry Bay SPA (Site code 004219) are included in **Table 2 and 3**.

Table 2. Qualifying habitats Courtmacsherry Estuary SAC

Habitat Code	Habitat	Conservation objective
1130	Estuaries	Maintain
1140	Mudflats and sandflats not covered by seawater at low tide	Maintain
1210	Annual vegetation of drift lines	Maintain
1220	Perennial vegetation of stony banks	Maintain
1310	*Salicornia* and other annuals colonizing mud and sand	Restore
1330	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	Restore
1410	Mediterranean salt meadows (*Juncetalia maritimi*)	Maintain
2110	Embryonic shifting dunes	Maintain
2120	Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)	Maintain
2130	Fixed coastal dunes with herbaceous vegetation (grey dunes)	Maintain

Restore = Restore favourable conservation condition, Maintain = Restore favourable conservation condition

Table 3: Features of Interest for the Courtmacsherry Bay SPA

Species code	Species	Scientific name	Conservation objective
A003	Great Northern Diver	*Gavia immer*	Maintain
A048	Shelduck	*Tadorna tadorna*	Maintain
A050	Wigeon	*Anas Penelope*	Maintain
A069	Red-breasted Merganser	*Mergus serrator*	Maintain
A140	Golden Plover	*Pluvialis apricaria*	Maintain
A142	Lapwing	*Vanellus vanellus*	Maintain
A149	Dunlin	*Calidris alpine*	Maintain
A156	Black-tailed Godwit	*Limosa limosa*	Maintain
A157	Bar-tailed Godwit	*Limosa lapponica*	Maintain
A160	Curlew	*Numenius arquata*	Maintain
A179	Black-headed Gull	*Chroicocephalus ridibundus*	Maintain
A182	Common Gull	*Larus canus*	Maintain
A999	Wetland and Waterbirds		Maintain

Restore = Restore favourable conservation condition, Maintain = Restore favourable conservation condition

To acknowledge the importance of Ireland's wetlands to wintering waterbirds, "Wetland and Waterbirds" may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one or more of the species of Special Conservation Interest. Thus, a further objective is to maintain or restore the favourable conservation condition of the wetland habitat within the Courtmacsherry Bay SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

5. Water quality

5.1 EPA Biological Monitoring

The Environmental Protection Agency carries out a biological assessment of most river channels in the country on a regular basis. The assessments are used to derive Q values, indicators of the biological quality of the water. The biological health of a watercourse provides an indication of long term water quality. Great importance is attached to the EPA biotic indices, and consequently it is these data that are generally used to form the basis of water quality management plans for river catchments.

The EPA does not currently monitor the water quality within the nearest watercourses to the site, the East Cruary (Spital Stream) and Timoleague River networks which flow into the Argideen Estuary (Courtmacsherry Bay SPA and Courtmacsherry Estuary SAC). The EPA does however monitor the coastal water quality of the Argideen Estuary. The EPA data on the quality of this site is listed in **Table 4**. Transitional water quality is defined as Unpolluted, Intermediate, Potentially eutrophic and Eutrophic. The former two are considered to be acceptable, while the latter two water quality ratings are considered as unsatisfactory.

Table 4: Water Quality and Location.

Coastal Waterbody location	Distance from development	Water Quality
Argideen Estuary	<150m from development	Eutrophic

Source: EPA – results based on 2010-2012 water quality data.

5.2 Water Framework Directive

The Water Framework Directive (WFD) is a key initiative aimed at improving water quality throughout the EU. It applies to rivers, lakes, groundwater, and coastal waters. The Directive requires an integrated approach to managing water quality on a river basin basis; with the aim of maintaining and improving water quality. The Directive requires that management plans be prepared on a river basin basis and specifies a structured approach to developing those plans. It requires that a programme of measures for improving water quality. Specifically, the WFD aims to protect/enhance all waters (surface, ground and coastal waters), achieve "good status" for all waters, manage water bodies based on river basins (or catchments), involve the public and streamline legislation.

A) The Water Frameworks Directive assesses the water quality of rivers and ranks their status as High, Good, Moderate, Poor, Bad and Yet to be determined**.**

B) The Water Framework Directive also determines the “Risk” level of the river as 1a – At risk of not achieving Good Status, 1b – Probably at risk of not achieving Good Status, 2a – Expected to achieve Good Status and 2b – strongly expected to achieve Good Status.

C) The Water Framework Directive also sets out the future plans for the protection and restoration of rivers as Protect, Restore – 2015, Restore – 2021 and Restore - 2027.

Water Framework Directive data is provided below in **Table 6.** Given the limited scope of the proposed works and the dilution provided in the estuarine environment, the impact from the proposed development is predicted to be negligible.

Table 6. Water Framework Directive data

Location	Water Framework Directive Status, Risk Score and objective 2010-2015
Spital River (Coastal) (Waterbody Code: IE_SW_20_2258)	• Overall Status: Good • Overall Objective: Protect • Overall Risk: 1a – At risk of not achieving Good Status.
Argideen Estuary (Waterbody Code: IE_SW_090_0200)	• Overall Status: Moderate • Overall Objective: Restore 2021 • Overall Risk: 1a – At risk of not achieving Good Status.

Source: http://www.wfdireland.ie/

6. Original Site inspection of New WWTP development site

A site inspection was carried out on 14th of March, 2017 to identify the habitats, flora and fauna present at the site. Previous site inspections were carried out by DixonBrosnan in 2011, 2013, 2014, 2015 and 2016 as part of the assessment procedure for various planning applications. The terrestrial and aquatic habitats within or adjacent to the proposed development site were classified using the classification scheme outlined in

the Heritage council publication *A Guide to Habitats in Ireland* (Fossitt, 2000) and cross referenced with Annex 1 Habitats where required.

The habitats which were directly affected by the new WWTP, and which are located outside the Natura 2000 site boundary (Arable Crops (BL1), Spoil & Bare Ground (ED2) are of low ecological value. Earth bank and hedgerow habitat will be unaffected. The area between the new WWTP site and the stream/estuary consists of wet grassland (WS2).

Tidal River CW2 habitat occurs in proximity to the site (See F**igure 3**); it corresponds approximately to the annexed habitat, 'estuaries (1130)' which is listed as a qualifying interest for the Courtmacsherry Estuary SAC. This habitat is close to the upper tidal limit and is relatively narrow and does not correspond to the Annex 1 Habitat 'mudflats and sandflats not covered by sea water at low tide (1140) and does not provide a good example of Annex 1 estuarine habitat ([1130] Estuaries).

Figure 3 also shows the approximate upper extent of the Annex 1 Habitat 'mudflats and sandflats not covered by sea water at low tide (1140)' and salt marsh habitats (Atlantic salt meadows (Glauco-Puccinellietalia maritimae) and Mediterranean salt meadows (Juncetalia maritimi) and Estuaries as mapped in the NPWS document Conservation Objectives: Courtmacsherry Estuary SAC 001230. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. NPWS (2014). The new WWTP is upgradient of this habitat and will only impact on terrestrial habitats.

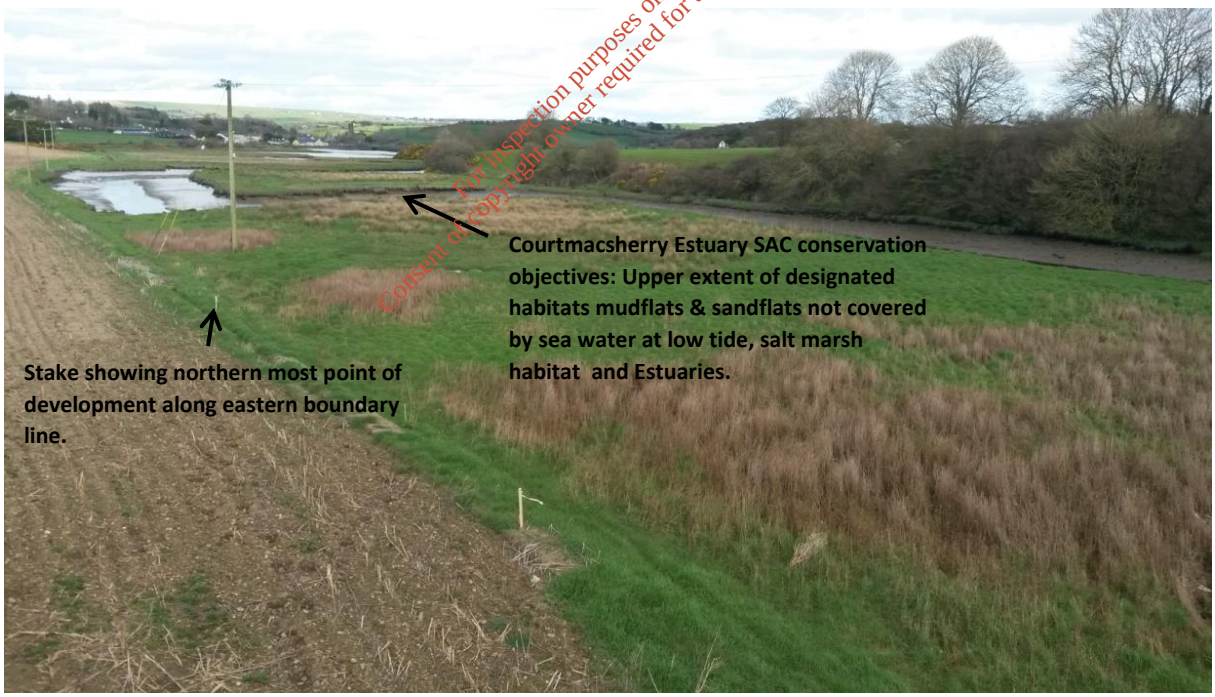


Figure 3. Courtmacsherry Estuary SAC conservation objectives: Upper extent of designated habitats mudflats & sandflats not covered by sea water at low tide, salt marsh habitat and Estuaries.

A number of bird species were recorded during a site survey in February 2017. More detailed bird surveys were carried out in 2014. No Annex I bird species were recorded during the site visit. Robin, Teal, Black-tailed Godwit and Shelduck are Amber Listed.

The Red Listed species Redshank was also recorded (See **Table 7**). Two of the recorded species (Black-tailed Godwit and Shelduck) are listed as features of interest for the Courtmacsherry Bay SPA. The number of birds recorded was low.

Table 7. Bird species recorded in 2017.

Species		**Birds Directive Annex**			**BOCCI**	
		I	**II**	**III**	**Red List**	**Amber List**
Corvus frugilegus	Rook					
Corvus monedula	Jackdaw					
Erithacus rubecula	Robin					X
Corvus cornix	Hooded Crow					
Pica pica	Magpie					
Species noted within estuarine habitat.		**I**	**II**	**III**	**Red List**	**Amber List**
Anas crecca	Teal		X	X		X
Limosa limosa	Black-tailed Godwit					X
Tringa nebularia	Greenshank					
Tringa totanus	Redshank				X	
Anas platyrhynchos	Mallard		X	X		
Tadorna tadorna	Shelduck					X
Ardea cinerea	Grey Heron					
Symbol	**Description**					
I	**Annex 1**: species and sub-species are particularly threatened. Member States must designate Special Protection Areas (SPAs) for their survival and all migratory bird species.					
II	**Annex 2**: bird species can be hunted. However, the hunting periods are limited and hunting is forbidden when birds are at their most vulnerable: during their return migration to nesting areas, reproduction and the raising of their chicks.					
III	**Annex 3**: overall, activities that directly threaten birds, such as their deliberate killing, capture or trade, or the destruction of their nests, are banned. With certain restrictions, Member States can allow some of these activities for species listed here.					

7. Assessment of Potential Impacts

The potential impacts associated with the new WWTP are discussed in the following section with respect to their likelihood to have significant impacts on Natura 2000 sites. As part of the assessment direct, indirect and cumulative impacts were considered. Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development. Indirect and secondary impacts do not have a straight-line route between cause and effect, and it is potentially more challenging to ensure that all the possible indirect impacts of the project/plan - in combination with other plans and projects have been established.

As part of the assessment the potential for impacts associated with the new WWTP were reviewed as outlined below:

- Direct Impact-Loss of Habitat
- Indirect impacts from noise and disturbance
- Direct Impact / Indirect -Impacts on Water Quality and aquatic ecology
- Direct Impact- Spread of Invasive Species

- Cumulative Impacts

7.1 Direct loss of habitat

The new WWTP is not located within a designated site and the habitats recorded within the new WWTP boundary do not correspond to habitats listed on Annex 1 of the Habitats Directive or qualifying habitats for the Courtmacsherry Estuary SAC. The habitats affected by the new WWTP were considered of low value at a local level and are relatively common in the surrounding landscape. No significant loss of habitat within Natura 2000 sites is predicted to occur.

7.2 Impacts from noise and disturbance

Predicting potential impacts on birds from disturbance can be problematic. Although there are many instances where waterfowl and people appear to co-exist on estuaries, there are widespread examples where effects and impacts of varying severity have been described. Optimal foraging theory is a useful basis from which to understand likely effects of disturbance on feeding. Many studies have shown that birds concentrate where feeding is best. If birds are forced temporarily or permanently to leave these places, then there is an increased risk that their foraging ability will suffer. However, the severity of this type of situation and the way is which birds respond, vary in a very complex way.

The SPA is of ornithological importance for the many waders and wildfowl that feed on the mud and sandflats. The estuary supports nationally important populations of golden plover and black-tailed godwit as well as significant populations of Wigeon, Mallard, Red breasted Merganser, Oystercatcher, Lapwing, Dunlin, Bar tailed Godwit, Curlew and Redshank. Both of these habitats are of value to bird species as feeding grounds and roosting/nesting habitat. The numbers of bird species, particularly waders, noted in the area adjoining the proposed development site is considerably lower than those recorded 0.8 km north in the vicinity of Timoleague town. Although the estuarine areas in proximity to the site do attract some wading birds, the habitats in the immediate vicinity of the facility and new WWTP are only of low value for birds in the context of the overall SPA.

Bird counts were carried out in 2014 as part of a Habitats Directive Screening Report (Habitats Directive Screening Report in respect of proposed development at the Staunton's foods processing plant at Aghmanister, Timoleague, Co. Cork, DixonBrosnan 2014). The surveys focused on designated habitats which occur in proximity to the proposed car park area which is located to the north of the existing facility and adjoins the Courtmacsherry Bay SPA. All birds within 250 meters of the survey point were counted as indicated below in **Table 7** and therefore this survey also covered the estuarine habitats adjoining the new WWTP site.

Table 7. Bird survey results (2014). F = Birds observed in the arable field.

Species	High Tide								Mid Tide				Low Tide							
	0:00 - 0:15	0:15 - 0:30	0:30 - 0:45	0:45 - 1:00	1:00 - 1:15	1:15 - 1:30	1:30 - 1:45	1:45 - 2:00	0:00 - 0:15	0:15 - 0:30	0:30 - 0:45	0:45 - 1:00	0:00 - 0:15	0:15 - 0:30	0:30 - 0:45	0:45 - 1:00	1:00 - 1:15	1:15 - 1:30	1:30 - 1:45	1:45 - 2:00
Grey Heron (*Ardea cinerea*)	5 F														1					
Oystercatcher (*Haematopus ostralegus*)					4	4														
Lapwing (*Vanellus vanellus*)						34	34										1			
Dunlin (*Calidris alpina*)	21																			
Black-tailed Godwit (*Limosa limosa*)														2	3	1	2	3	3	3
Curlew (*Numenius arquata*)								1	1	1	1	1			1	2			1	1
Redshank (*Tringa totanus*)			1	1	1	1	1	1	1	3	4	4	2	2	4	4	3	4	2	3
Greenshank (*Tringa nebularia*)											2						1	1	1	
Wigeon (*Anas penelope*)	13	13	13	13	13	13														
Teal (*Anas crecca*)	2	2	5	6	6	11	11	11	4	4	4	4	4	4	9	9	5	6	13	5
Mallard (*Anas platyrhynchos*)	2										2	2			2					
Black-headed Gull (*Larus ridibundus*)										1										
Woodpigeon (*Columba palumbus*)	13 F								32 F	32 F	32 F	32 F								
Stonechat (*Saxicola torquata*)									2	2	2	2	2	2	2	2	2	2	2	2
Rook (*Corvus frugilegus*)						4 F														
Hooded Crow (*Corvus corone cornix*)													1							
Reed Bunting (*Emberiza schoeniclus*)				2					2											
Pheasant (*Phasianus colchicus*)			1 F								1									
Pied Wagtail (*Motacilla alba*)													1							
House Sparrow (*Passer domesticus*)		12 F			12 F	9 F		11 F		9 F			5 F			11 F	11F			3F

Of the birds recorded during site surveys six are listed as qualifying interests for the Courtmacsherry SPA (wigeon, lapwing, dunlin, black tailed godwit, curlew, and black headed gull). However, bird numbers were very low in the areas closest to the arable field within which the new WWTP is located. This is primarily due to the absence of large areas of mudflat habitat which would, if present, provide high value feeding habitat for waders. Moving downstream into the estuary numbers increase as feeding opportunities improve. Arable land is generally not suitable for high tide roosts. A large flock of curlew was observed at high tide using the improved agricultural grassland on the opposing side of the tidal channel. However, no impact on birds feeding in this area is predicted.

Given the limited value of adjoining estuarine habitats for birds the limited increase in predicted noise, the visual screen provided by landscape berms the impact on birds listed as qualifying interests for the Courtmacsherry Bay SPA is predicted to be minor in the short-term and negligible in the longer term. No significant impact on important bird populations is predicted to occur.

7.4 Impacts on water quality during operation

Inadvertent spillages of hydrocarbons or other chemicals could introduce toxic chemicals into the aquatic environment via surface water run-off or groundwater contamination. All chemicals or fuel stored on site will be within secure suitably-sized bunded areas. The risk that minor spills, were they to occur, would impact on qualifying bird populations (Courtmacsherry Estuary SPA) or qualifying habitats (Courtmacsherry SAC) is negligible given the nature of the qualifying interests and the dilution provided in the estuary.

High levels of silt in surface water run-off can impact in particular on fish species, in particular salmonids. If of sufficient severity, adult fish could theoretically be affected by increased silt levels as gills may become damaged by exposure to elevated suspended solids levels. If of sufficient severity, aquatic invertebrates may be smothered by excessive deposits of silt from suspended solids. In areas of stony substrate, silt deposits may result in a change in the macro-invertebrate species composition, favouring less diverse assemblages and impacting on sensitive species. Aquatic plant communities may also be affected by increased siltation. Impacts on water quality could also impact on fish stocks which in turn could impact on populations of piscivorous birds. This could theoretically result in changes in the ecology of the estuary. A detailed water management system is provided and high levels of silt are not predicted to occur in surface water draining from the site.

The discharge of nutrients from the WWTP or in surface water run-off could potentially increase nutrient levels within the estuary. This could result in changes in the ecology of the estuary particularly if the assimilative capacity of the receiving waterbody for key nutrients is exceeded. Nutrient enrichment, if of sufficient severity, could impact by altering key habitats or species through lower oxygen levels, changes in nutrient levels in substrates or increased turbidity. For example, and although the precise mechanisms are poorly understood, high nutrient levels could increase levels of sea lettuce (*Ulva ulva*) which in turn my impact on the Annex 1 habitat *Mudflats and sandflats not covered by seawater at low tide [1140] or Salicornia and other annuals colonizing mud and sand,* which is listed as a qualifying interest for the Courtmacsherry Estuary SAC. Similarly, increased nutrients may increase the growth rate and vigour of Cordgrass (*Spartina sp*.) which can impact on mudflat habitat by decreasing the habitat area available for feeding. Another potential impact on these habitats includes changes in algal/salt marsh species composition, as nutrient enrichment may favour certain more nutrient tolerant species.

Nutrient enrichment may impact on macro-invertebrate communities in estuarine mudflats. Such changes may impact on species distribution with more nutrient tolerant species expected to thrive. Changes in the distribution of certain macro-invertebrate species could impact on feeding behaviour and success for bird species listed as qualifying interests for the Courtmacsherry Bay SPA. It is noted that increased nutrient levels in estuarine mudflats may have a net positive impact by increasing the biomass of prey available to wintering waders.

High levels of nutrients may increase algae levels or contribute to algal blooms. This may result in increased turbidity which may impact on feeding success for piscivorous species such as great Northern Diver and Red Breasted Merganser which are listed as features of interest for the Courtmacsherry Bay SPA.

It is noted that no change in the discharge limits are proposed at this time and that the new WWTP allows the applicant to better meet the requirements of these limits. Wastewater discharge licence limits have been designed to ensure that water quality in

the estuary is protected. The provision of a modern plant on a larger site allows for greater control over the wastewater treatment process. All contaminated water will be directed to the WWTP. The WWTP will be managed directly by the full time onsite Environmental Manager. An emergency response procedure has been prepared to provide for plant breakdown or structural failure. The structural integrity of WWTP tanks, channels and sumps will be confirmed by an independent engineering firm.

A previous report prepared for the Stauntons Facility (Natura Impact Statement (Stage 2 Appropriate Assessment) in support of an Industrial Emissions (IE) License for Staunton's Foods facility at Spital Cross, Timoleague, Co. Cork, DixonBrosnan, 2015) noted the following in relation to the current discharge:

It is very improbable that the discharge from Staunton's facility is having a negative impact on wintering birds listed as qualifying interests for the Courtmacsherry SPA. There is a high level of dilution available in the estuary in relation to the volume of the discharge. As noted above changes to the wastewater treatment system for Courtmacsherry and Timoleague will reduce the net volume of nutrients reaching the estuary. Whilst this may have a net positive impact on local marine ecology it may have detrimental impacts on feeding birds due to reduced prey availability. Whilst the populations dynamics of feeding birds within the estuary are complex, it is probable that the discharge from Staunton's, whilst not hugely significant in its own right, may have a net positive impact on bird populations in the future by contributing nutrients which increase prey availability in estuarine muds.

It is noted that the existing WWTP has struggled to meet various emission limit values specified in licence P0947-01. In March 2017, the discharge to the stream was halted, and SF began ferrying treated wastewater to the municipal WWTP at Carrigtoohill. Although this procedure removes the risk of breaches of the licence limits, the practice is not sustainable.

The new WWTP has been specifically designed to meet the requirements of the emissions licence in accordance with guidance given in relevant best available techniques (BAT) documents and associated BAT reference documents (BREF). The new treatment plant will provide greater control over treatment processes and result in a high quality discharge which consistently complies with licence limits. The new WWTP will be managed directly by the full time onsite Environmental Manager. An emergency response procedure provides for plant breakdown or structural failure.

As noted above environmental protection measures have been incorporated into the project design. These include appropriate attenuation, separation and treatment of clean and soiled water, emergency backup measures, bunding and testing of tanks and discharge on a tidal cycle.

Overall it is concluded that the new WWTP system will have net minor to moderate positive impact on designated Natura 2000 sites by ensuring that more effective and consistent treatment is provided.

7.5 Impacts on birds form noise and disturbance

Disturbance of important qualifying bird species and mammals could occur due to operation of the new WWTP. Predicting potential impacts on birds from disturbance can be problematic. Although there are many instances where waterfowl and people appear to co-exist on estuaries, there are widespread examples where effects and impacts of varying severity have been described. Optimal foraging theory is a useful basis from which to understand likely effects of disturbance on feeding. Many studies have shown that birds concentrate where feeding is best. If birds are forced temporarily or permanently to leave these places then there is an increased risk that their foraging ability will suffer. However the severity of this type of situation and the way is which birds respond, vary in a very complex way. The multiplicity of variables underlying the observed interactions between waterfowl and people makes it difficult to assess the cause and implications of a particular instance of disturbance. The magnitude of disturbance to waterfowl may also arise from synergistic effects of more than one activity.

In this instance a landscaped berm will provide an adequate screen between the estuarine mudflat habitat on which birds feed and the new WWTP. Noise levels associated with the operation of the WWTP are not predicted to be significant. Birds readily habitualise to background industrial noise and noise levels from the operation of the WWTP are not predicted to be significant given the environmental protection measures which will be implemented as part of the project design. The long-term impact on birds listed as qualifying interests for the SPA are predicted to be negligible.

7.6 Impacts on habitats

With respect to designated habitats listed as qualifying interests for the Courtmacsherry Estuary SAC, no potential impact on the designated habitats Annual vegetation of drift lines, Embryonic shifting dunes, Perennial vegetation of stony banks, Shifting dunes along the shoreline with Ammophila arenaria (white dunes), Fixed coastal dunes with herbaceous vegetation (grey dunes) have been identified due to the location of these habitats which are located a considerable distance from the discharge point, the semi-terrestrial nature of the habitats and the limited potential influence of aquatic nutrients.

Salt marsh habitats (Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean salt meadows (*Juncetalia maritimi*)) do occur downstream of the proposed development. Issues identified by NPWS SAC supporting documentation include Spartina swards at Harbour View and changes in grazing structure also at Harbour View. The proposed development will not directly impact on these habitats and as no changes are proposed in discharge volumes and concentrations no potential impact on these habitats has been identified.

Estuaries and Mudflats and sandflats not covered by seawater at low tide could potentially be impacted by changes in nutrient levels within the bay. Both habitats occur downstream and in close proximity to the new WWTP (See **Figure 3** above). The specific conservation targets for both habitats are to ensure that the permanent habitat area is stable or increasing, subject to natural processes and to conserve the following

community types in a natural condition: Sandy mud to mixed sediments with *Tubificoides benedii and Hediste diversicolor* community complex; Sand to mixed sediment with oligochaetes community complex; Sand with *Nephtys cirrosa* community complex. Those communities are key contributors to overall biodiversity at the site by virtue of their structure and/or function (keystone communities) and their low resilience and should be afforded the highest degree of protection and any significant anthropogenic disturbance should be avoided. Significant continuous or ongoing disturbance of communities should not exceed an approximate area of 15% of the interpolated area of each community type. (Courtmacsherry Estuary SAC Conservation objectives supporting document - Marine Habitats, NPWS 2014).

There will be no direct disturbance of these habitats which are located downstream of the new WWTP. Potentially impacts could arise if increased nutrient discharges were to arise which could cause changes in community structure. The Staunton Foods facility is regulated by the EPA through IED licence P0947-01 which specifies the limits and volumes of treated wastewater applicable to the site. These limits are based on the assimilative capacity for the bay and are designed to minimise impacts on estuarine ecology and designated sites. Given that no change to the current discharge is proposed no significant impact on water quality or on nutrient levels in estuarine sediments is predicted to occur.

7.4 Spread of Invasive Species

No impacts from the spread of Japanese Knotweed outside its current distribution is predicted. Therefore, any impact on Natura 2000 sites is predicted to be imperceptible.

7.7 Cumulative Impacts

Cumulative impacts refer to a series of individually impacts that may, in combination, produce a significant impact. The underlying intention of this in combination provision is to take account of cumulative impacts from existing or proposed plans and projects and these will often only occur over time.

Pressures identified for the Courtmacsherry Estuary SAC and Courtmacsherry Bay SPA (NPWS,) include agricultural, nautical sports and other outdoor leisure activities and disposal of human waste.

Agriculture remains the dominant land use and intensive agriculture in particular can have significant impacts on aquatic ecology by increasing nutrients and sediment loads. Wastewater is also discharged from other settlements (Timoleague and Courtmacsherry) and local industry.

Changes to the wastewater treatment system for Timoleague, which will result in treated waste being discharged at Courtmacsherry, will reduce the net volume of nutrients reaching the inner bay. Whilst this may have a net positive impact on local marine ecology it may have detrimental impacts on feeding birds due to reduced prey availability. Whilst the population's dynamics of feeding birds within the estuary are

complex, it is probable that the discharge from Staunton's may have a net positive impact on bird populations by contributing nutrients which increase prey availability in estuarine muds. This positive benefit may become more pronounced as inputs of nutrients from Timoleague and agricultural sources are further reduced in the future. It is noted that levels of sea lettuce within the bay have significantly declined in recent years

In the absence of any impacts from aqueous emissions during operation or disturbance impacts on birds from the operation of the new WWTP or the existing facility, no significant potential in-combination impacts have been identified.

8. Conclusions

During operation, there will be no changes in discharge limits or volume and the provision of a new treatment plant will give the applicant better control over the treatment process using best available technology. The nutrient dynamics of the bay are complex however no negative impact on qualifying habitats for the Courtmacsherry Bay SAC have been identified. The impact on birds from nutrient discharges can be negative or positive. High levels of algae such as sea lettuce can have a negative impact on prey availability, however high nutrient levels help to maintain a high biomass of estuarine invertebrates on which birds feed. In this instance levels of sea lettuce have declined significantly in recent years and the discharge from the Staunton's is expected to have a slightly positive impact on birds listed as qualifying interests for the Courtmacsherry Bay SPA.

Existing areas of Japanese Knotweed will not be disturbed, no impact on designated sites from the spread of invasive species will occur.

No significant disturbance of important bird populations listed as qualifying interests for the Courtmacsherry Bay SPA will occur during operation of the WWTP will occur.

The provisions of Article 6 of the 'Habitats' Directive 92/43/EC (2000) defines 'integrity' as the 'coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and / or population of species for which the site is or will be classified'. *The draft documents Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (Draft)* (EC, 2015) states that the integrity of the site can be usefully defined as the coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated"

This stage 1 Habitats Directive screening report has considered all of the impacts arising from the proposed development which could theoretically impact on designated Natura 2000 sites. It is concluded that the development will not have a significant impact on qualifying interests for Natura 2000 sites and that the integrity of designated Natura 2000 sites will not be adversely impacted. No significant direct, indirect or cumulative impacts are predicted and therefore a Stage 2 NIS is not considered necessary.

Appendix

Appendix 1 Old site boundary

Appendix 2 Surface Water Results

Appendix 3 Surface Water Collection from the New WWTP

9. Reference list

Fossitt, J. A. (2000). A Guide to Habitats in Ireland. The Heritage Council of Ireland Series

Environmental Protection Agency Ireland (http://www.epa.ie/)

Invasivespecies Ireland (http://invasivespeciesireland.com/)

National Biodiversity Data Centre (http://www.biodiversityireland.ie/)

National Parks and Wildlife Service website (www.npws.ie)