

**Habitats Directive Article 6**

**Appropriate Assessment**

**Historic Landfill Site Portlaw**

**November 2010**

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**Waterford County Council**  
**Comhairle Chontae Port Láirge**

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## 1. Introduction to Habitats Directive and Article 6 Appropriate Assessment

The aim of the European Habitats Directive (Council Directive 92/43/EEC on the conservation of wild habitats and of wild fauna and flora) is to create a network of protected wildlife sites in Europe, maintained at a favourable conservation status<sup>1</sup>. Each member state must designate their most important natural areas as Special Areas of Conservation. The Directive specifies the scientific criteria on the basis of which SAC sites must be selected and very strictly curtails the grounds that can be used as justification for damaging a site. The network of sites is referred to as NATURA 2000 and includes SACs (Special Areas of Conservation) for protected habitats and species and SPAs (Special Protection Areas) for birds. Sites may contain priority or non-priority habitats and species. Priority habitats include raised and blanket bogs, some types of fens, bog woodlands and fixed coastal dunes.

The European Habitats Directive (Council of the European Communities 1992) was transposed into Irish legislation by the European Communities (Natural Habitats) Regulations, 1997, amended in 1998 and 2005 with further amendments proposed by the Draft European Communities (Birds and Natural Habitats) Regulations of 2010.

The Planning and Development (Amendment) Act 2010 now provides for the full transposition and integration of the Planning System with the provisions of the EU Habitats and Birds Directives. As a result, all land-use planning policies and development management decisions must fully implement the very stringent protection afforded to designated European sites (Natura 2000), including potential indirect and cumulative impacts, through the preparation of a Natura Impact Statement i.e. an appropriate assessment of the implications of the development for the conservation status of the site must be undertaken.

The only justifications for damaging a qualifying "priority" site are "considerations relating to human health and public safety, to beneficial consequences of primary importance of the environment, or further to an opinion from the European Commission, to other imperative reasons of overriding public interest" (IROPI), but this can only be allowed after an assessment is made in line with the Article 6 procedure, and there are no other alternatives and an agreement is reached with the European Commission.

Article 6 of the Habitats Directive provides a strict assessment procedure for any plan or project not directly connected with or necessary to the management of a designated European site but which has the potential to have implications for the site in view of the site's conservation objectives. The Historic Landfill at Portlaw therefore, falls under the remit of Article 6.

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<sup>1</sup> The conservation status of a species can be taken as "favourable" when population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats, the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future and there is and will continue to be a sufficiently large habitat to maintain its populations on a long-term basis. Article 1 (i) of the Habitats Directive 92/43/EEC

The conservation status of a habitat can be taken as "favourable" 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.

## 2. Guidance on the implementation of Article 6

### 2.1 European Guidance

The European Commission Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive sets out the four stages for Appropriate Assessment.<sup>2</sup>

**Stage 1. Screening** — the process which identifies the likely 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 2. 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 3. 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;

**Stage 4. 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.

### 2.2 National Guidance

Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities was published by the DoEHLG in 2009 and advises the Statement for AA should include information on the plan or project, its location, extent and receiving environment, the Natura 2000 sites, their conservation objectives and ecological and environmental sensitivities and the likely or potential effects of the plan or project.

## 3. Procedure for stage one screening

**Step 1: Determine whether the project or plan is directly connected with or necessary to the management of the site;**

The Historic Landfill at Coolfin, Portlaoigh is not directly connected to the management of the Natura 2000 sites and may have impacts on the conservation objectives of the site.

**Step 2: Describe the project or plan and the description and characterisation of other projects or plans that in combination have the potential for having significant effects on the Natura 2000 site;**

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<sup>2</sup> *Assessment of plans and projects significantly affecting Natura 2000 sites - methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC.*  
Managing Natura 2000 sites The provisions of Article 6 of the Habitats Directive 92/43/EEC.  
European Commission (2002)

The historic landfill site is contained within the boundary of the Lower River Suir SAC and surrounded on its northern, eastern and western boundaries by the River Clodiagh, a tributary of the River Suir. The Clodiagh joins the Lower River Suir some 1.5km away from the historic landfill site. The site is approximately .5km from the western boundary of the pNHA Coolfin Marshes.

The site itself consists of approximately 1.0 ha of agricultural grassland overlying the landfill. Bounded by the River Clodiagh on 3 of 4 of its boundaries the site is enclosed by the river banks which are lined with vegetation typical of riparian banks and dominated by *Salix sp.* trees. Entrance to the site is bounded by a stone wall and a tree line of Leyland Cypress. Stands of the invasive alien plant Japanese Knotweed also occur along the site boundary.

While the site is within the designated boundary of the Lower River Suir SAC its function is to serve as a buffer to the river rather than providing any ecological value in itself.

It is required to assess the historic landfill site in terms of its impacts on the designated site. This report sets out the qualifying interests of the Lower River Suir SAC, conservation objectives for the site, threats to site integrity and how the historic landfill may be impacting on these and any mitigation measures recommended to address these.

### **Step 3: Identify the potential effects on the Natura 2000 site;**

The guidance states that all N2000 sites within or adjacent the site must be mapped and tabulated, and site integrity and site conditions necessary to support the site integrity must be indicated.

The information presented in Table 1 comprises a breakdown of Natura 2000 sites adjacent to the landfill.

The following information is listed for each N2000 site:

- Site code
- Site name
- Qualifying interests
- Conservation objectives
- Threats to site integrity.

### **Step 4: Assess the significance of any effects on the Natura 2000 site.**

The screening stage involves application of the precautionary principle proportional to the project and the Natura 2000 site in question. The landfill and its impact on the N2000 has been screened to ascertain if the site is likely to have significant effects on any Natura 2000 sites, using the following framework:

- Landfill attributes
- N2000 site
- Qualifying interests
- Threats to site integrity

- Potential impacts from landfill
- Risk of significant impact (Y/N)
- Potential 'in combination' impacts
- Risk of significant impacts (Y/N)
- Avoidance and (then) mitigation measures
- Action required:.

#### **4. Scoping of issues for AA**

In order to inform preparation of the Appropriate Assessment, consultation by phone was held with the NPWS Conservation Ranger for County Waterford in October 2010. Site specific issues pertinent to the landfill site linked to potential impacts on the conservation status of the SAC were not known.

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**Table 1: Natura 2000 sites relevant to the site**

<b>County Waterford</b>		<b>Special Areas of Conservation (SACs)</b>	
<b>Site code</b>	<b>Site name</b>	<b>Qualifying interests</b>	<b>Conservation objectives</b>
		<b>Threats to site integrity (General to this habitat type and not site-specific to River Clodiagh/Suir)</b>	
0002137	Lower River Suir SAC	<p>Alluvial Wet Woodlands and Yew Wood, Floating River Vegetation, Atlantic Salt Meadows, Old Oak Wood and Eutrophic Tall Herbs</p> <p>Sea Lamprey, Brook Lamprey, River Lamprey, Freshwater Pearl Mussel, Crayfish, Twaité Shad, Atlantic Salmon, Otter</p>	<p>To maintain the Annex I habitats and Annex II species for which the cSAC has been selected at favourable conservation status.</p> <p>To maintain the extent, species richness and biodiversity of the entire site.</p> <p>To establish effective liaison and co-operation with landowners, legal users and relevant authorities.</p>

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## 5. Screening Assessment

Table 2 below details the appropriate assessment matrix used to assess the risk of significant impacts from the historic landfill site on the conservation objectives for the River Suir SAC. Assessment criteria are based on identification of potential impacts relevant to the nature of the site and also informed by the Screening Matrix template from Annex 2 of the EC Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Following identification of potential impacts the level and nature of the risk from those impacts are qualified and mitigation measures recommended where required.

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**Table 2. Appropriate Assessment matrix to determine risk of significant impacts on SACs and SPAs.**

Natura 2000 Site	Possible impacts from Historic Landfill	Risk of Significant Impact	Mitigation measure
<b>Lower River Suir</b>	Discharge to surface water or groundwater	A Tier 2 Exploratory Investigation carried out as part of the Environmental Risk Assessment of the site classified the site as a Class C – lowest risk category and concluded that there is no direct connection of leachate migration to the River Clodiagh which bounds the site on the west, north and east.	Ongoing monitoring of groundwater and leachate as part of Environmental Risk Assessment of Unregulated Waste Disposal Site
	Construction within a floodplain or area liable to flood	The area is included in lands classified as benefitting lands by the OPW. Flood reports on <a href="http://www.floodmaps.ie">www.floodmaps.ie</a> detail flood events in the Portlaw area in 1989 and 2004 but not relating specifically to the site of the historic landfill. A breach in the embankment close to the gasline occurred in 1989. A Strategic Flood Risk Assessment would further inform this issue and risk.	Site to be included in Strategic Flood Risk Assessment for Portlaw
	Storage of chemical hydrocarbons or organic wastes	The landfill site contains mainly municipal waste and construction and demolition waste. Waste samples were taken from 3 trial pits on the landfill site and compared to EPA interim groundwater standards and leachate standards used for waste characterisation. Of 45 parameters 40 complied with stringent groundwater standards. The 5 parameters that exceeded groundwater standards were ammonium, manganese, orthophosphate, potassium and Polycyclic aromatic hydrocarbons (PAH). All 45 parameters complied with the leachate standard for waste characterisation, indicating the waste is determined to be inert waste.	

	Changes to site arising from reduction of habitat area	The River Suir SAC was designated under SI no. 94 in 1997 and boundary maps of the designated area included the site of the landfill which had been closed since 1994. The site may have been included as a buffer area as it does not and would not have at that stage provided any ecological value in its own right. No significant changes can be attributed to landfill site arising from reduction of habitat area since this was poor quality to begin with.	
	Disturbance to key species	Key species such as Freshwater Pearl Mussel occur some 600m away from and upstream of the landfill site. A review of biological records data on <a href="http://www.biodiversityireland.ie">www.biodiversityireland.ie</a> indicates records of White Clawed Crayfish from 3 locations west of Portlaw and upstream of historic landfill site. Otter are also recorded in the general catchment area upstream and downstream of confluence of River Clodiagh and River Suir and also upstream of the landfill west of Portlaw. Current closed and capped nature of landfill site infers no significant levels of disturbance to key species.	
	Habitat or species fragmentation	The landfill is now closed and abounds a linear waterway habitat so no risk implied for habitat or species fragmentation.	
	Reduction in species density	The NPWS 2004/2005 Otter Survey of Ireland lists the River Suir as one of the most important SACs for Otter. The NPWS 2006 survey of Lamprey reported that River/ Brook Lamprey are presently at a favourable status in the Suir Catchment. The landfill site is outside the catchment area for Freshwater Pearl Mussel. No significant reduction in species can be linked as arising from the historic landfill site.	

<p>Changes in key indicators of conservation value (water quality)</p>	<p>According to survey of Lamprey in the River Suir catchment by the NPWS in 2006 “The water quality on the Suir has a higher % of unsatisfactory areas than the Corrib catchment. However, this does not seem to have any bearings on lamprey distribution”.</p> <p>Population size and survival of juveniles in the River Clodiagh Freshwater Pearl Mussel catchment is on the decline but the catchment is west of and upstream from the historic landfill site.</p> <p>Appendix 1 details water quality data for the River Clodiagh, River Suir and Lower River Suir Estuary. River Clodiagh was reported as Q4/good in 2008- sampling points are upstream of landfill site.</p> <p>Sampling points for River Suir are upstream of confluence of River Clodiagh with River Suir as river is tidal as far as Carrick on Suir. Water quality in River Suir at Carrick reported as Q3.</p> <p>Assessment of 2008 also reported that the Crayfish, a protected species, was recorded at 15 of the 22 sites examined along the Suir.</p> <p>The Upper River Suir is classified as potentially eutrophic and the Lower Suir Estuary as Intermediate.</p> <p>The SERBD Management Plan classifies the ecological status of the River Clodiagh as moderate while the chemical status of the River Clodiagh is classed as yet to be determined</p>	<p>Freshwater Pearl Mussel Regulations</p> <p>Freshwater Pearl Mussel Sub-basin Catchment Plans</p> <p>Water Framework Directive River Basin District Management Plan and Programme of Measures</p> <p>Groundwater Regulations 2010</p> <p>Surface Water Regulations 2009</p>
<p>Interference with key relationships that define structure of the Natura 2000 site</p>	<p>Key habitats in this part of the SAC are eutrophic tall herbs and floating river vegetation. Threats to these habitats would be the spread of invasive species, arterial drainage and agricultural improvement at the river edge including excessive fertilisation, afforestation and eutrophication. Of</p>	<p>Eradication and control programme for Japanese Knotweed to be implemented by the site owner</p>

		these there is a risk from the spread of Japanese Knotweed which can be addressed. In the absence of recent and detailed baseline survey data for species such as Otter, Crayfish and Lamprey direct or significant impact on the conservation status of these species cannot be inferred from the landfill site.	
	Interference with key relationships that define the function of the site	A stand of the invasive alien plant Japanese Knotweed occurs along the site boundary and has potential to spread further into the site.	Eradication and control programme to be implemented by the site owner

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## 5.2 Potential Impacts and Mitigation

Water quality is considered the key issue in support of the conservation objectives for the River Suir SAC and its protected habitats and species. Water quality may be adversely impacted by discharges and run off via groundwater and surface water and the level of adverse impact is dependant on the nature of that discharge.

In order to inform the risk to water quality in the River Suir SAC from the landfill, EPA water quality data were reviewed for the River Suir and River Clodiagh. The SERBD Management Plan was consulted for water quality data on Waterford Estuary which is tidal as far as Carrick on Suir. As sampling points for both rivers are from above the confluence of the River Clodiagh with the River Suir more site specific monitoring data was required to give a more informed level of assessment.

The level of risk of leachate from the landfill to the River Clodiagh has been assessed by Waterford County Council as part of a Tier 2 Exploratory Investigation for Environmental Risk Assessment for Unregulated Waste Disposal Sites. This assessment rated the site as Class C which is the lowest risk category and concluded that there is no direct connection of leachate migration to the River Clodiagh which bounds the site on the west, north and east.

A Ground Investigation Interpretive Report prepared by PGL priority technical for Waterford County Council in 2010 recommends additional boreholes to be constructed outside the boundary of the Municipal Solid Waste to allow for monitoring of the natural groundwater and also recommends ongoing leachate and landfill gas monitoring in the MSW area.

Review of benefitting lands on the OPW flood maps website indicates the landfill is within an area of benefitting lands, however, review of flood reports from the Portlaw area did not highlight specific events at the Coolfin site. Preparation of a Strategic Flood Risk Assessment for the Portlaw area will further inform this risk.

With regard to the nature of waste in the site waste samples from 3 trail pits complied with 40 of 45 environmental parameters for groundwater standards while all 45 parameters complied with leachate standards for waste.

Water quality will continue to be monitored and subject to the range of environmental legislation including Surfacewater Regulations, Groundwater Regulations and the provisions of the SE River Basin District Management Plans and associated Programme of Measures.

Protected species in the River Suir SAC include Pearl Mussel, Lamprey, Otter, Salmon and Crayfish. All these species are water dependant species and thus, protecting the habitat in which they occur will by association enable protection of their conservation status. While the population and number of surviving juveniles of Freshwater Pearl Mussel in the River Clodiagh are declining the catchment area is upstream of the historic landfill site and thus risk from the site cannot be considered significant to this species. Most recent survey data for species such as Otter (2004/5) and Lamprey (2006) indicate continued presence of these species in the SAC. No significant reduction in species can be linked as arising from the historic landfill site. Updated surveys of these species on a national level will be available in 2012.

In terms of reduction in habitat area the nature of the SAC at this location is a linear waterway with fringing riparian vegetation and treelines. Qualifying habitats in the SAC include eutrophic tall herbs and floating river vegetation. The landfill site has been closed since 1994 and did not provide habitat value at time of designation of the SAC in 1997 so changes in reduction of habitat area are not regarded as significant. As the landfill is no longer in use and now capped no risk is implied for habitats or species fragmentation.

Invasive species is a threat to the biodiversity of the site and a stand of Japanese Knotweed was noted growing on the landfill site. This can be mitigated by an eradication and control programme by a treating with a suitable herbicide at appropriate times of the year.

## **6. Conclusion**

An Appropriate Assessment was carried out on the historic landfill at Coolfin, Portlaw. Preparation of the assessment involved preliminary discussion with the NPWS Conservation Ranger. A review of conservation objectives and threats to site integrity for the River Suir SAC was undertaken to identify relevant environmental impacts from the landfill site that may affect the integrity of the SAC. Survey data from the Tier 2 Exploratory Investigation involving water quality data along with NPWS, EPA and WFD data were reviewed to inform the assessment procedure. The assessment found that while water quality is the key issue for maintenance of the protected habitats and species in the River Suir SAC, there is a low risk of leachate from the landfill to the River Clodiagh. Indicator species such as Freshwater Pearl Mussel occurs upstream of the landfill site and its conservation status is not influenced by the landfill site. As the site is now closed and capped, disturbance, impacts on fragmentation and reduction in key species and habitats are not arising. The presence of an invasive species can be addressed by a Japanese Knotweed control programme. A Finding of no Significant Effects is concluded from the Appropriate Assessment of the historic Landfill Site at Coolfin, Portlaw.

# APPENDIX 1 Water Quality Data (EPA)

River and Code: **CLODIAGH (PORTLAW)**

16C03

Tributary of: 16S02 SUIR

OS Catchment No: 182

OS Grid Ref of confluence: S 487 156

Date(s) Surveyed: 31/12/1971, 31/12/1975, 31/12/1978, 31/12/1980, 31/12/1982, 31/12/1984, 31/12/1986, 31/12/1988, 31/12/1993, 31/12/1996, 19/7/1999, 3/7/2002, 15/8/2005, 20/11/2007, 2/7/2008, 3/7/2008

Station Nos.	<b>Biological Quality Ratings (Q Values)</b>														
	1971	1975	1978	1980	1982	1984	1986	1988	1993	1996	1999	2002	2005	2007	2008
0040	-	-	-	-	-	-	-	4	4	4	4-5	4	4	-	3-4
0100	-	-	5	-	-	-	4-5	4-5	3	3-4	4-5	4	n/s	-	-
0200	-	-	5	-	-	-	4-5	4-5	4-5	4-5	4	4-5	4	-	4
0300	5	5	5	-	-	5	4-5	4	4	3-4	3	3	2	4	3
0350	-	-	-	-	-	-	-	4-5	4-5	-	-	-	n/s	-	-
0400	-	5	5	-	-	5	3-4	4-5	4-5	4-5	3-4	4	4	-	4
0500	5	5	5	5	-	5	4	4	4	-	-	-	n/s	-	-
0600	1	1/0	1/0	1/0	1/0	1	2-3	2-3	3	-	-	-	n/s	-	-
0700	-	2-3	4-5	3	3-4	3-4	4-5	4	4-5	-	-	-	n/s	-	-
0750	-	-	-	-	-	-	-	-	-	4-5	4	4-5	4	-	4

**Assessment:** Mostly satisfactory but continuing polluted at Clonea due to sewage discharge and only moderate status at first location as a result of suspected intermittent agricultural run-off...

Station No.	Station Location	National X	Grid Ref. Y	Discovery Series No.	County Code
0040	Grogavalla br	232211	116370	75	WD
0100	Shanakill Br	234401	115950	75	WD
0200	Lackan Br	235232	113692	75	WD
0300	Clonea Br	238452	114185	75	WD
0350	Br S of Glenstown	0	0	0	WD
0400	Lowry Br	242123	114873	75	WD
0500	2.5 km u/s Portlaw	0	0	0	WD
0600	Portlaw Br (LHS)	0	0	0	WD
0700	Portlaw Br (RHS)	0	0	0	WD
0750	Just d/s Portlaw Br	246785	115025	75	WD

Station No.	<b>Site Altitude and Upstream Catchment Characteristics (where available):</b>										
	Alt	Area	Sil	Cal	Pasture	Forestry	Bogs	Urban	Misc Ag.	Water	Other
0040	118	20	100	0	61	15	9	0	0	0	14
0100	95	23	100	0	68	12	8	0	0	0	12
0200	72	43	100	0	68	7	9	0	5	0	10
0300	51	66	100	0	62	6	10	0	5	1	16
0350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0400	35	103	100	0	67	6	7	0	10	0	10
0500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0750	5	129	100	0	63	10	5	0	13	0	9

River and Code: **SUIR**  
 Tributary of: Waterford Harbour  
 OS Grid Ref of confluence: S 402 215

**16S02**  
 OS Catchment No: 182

Date(s) Surveyed: 31/12/1971, 31/12/1974, 31/12/1978, 31/12/1980, 31/12/1982, 31/12/1985, 31/12/1986, 31/12/1988, 31/12/1992, 31/12/1993, 31/12/1996, 12/10/1999, 13/10/1999, 15/10/1999, 8/10/1999, 2/9/2002, 3/9/2002, 4/9/2002, 5/9/2002, 1/9/2005, 2/9/2005, 29/8/2005, 30/8/2005, 31/8/2005, 22/9/2008, 23/9/2008, 24/9/

Station Nos.	<b>Biological Quality Ratings (Q Values)</b>														
	1971	1974	1978	1980	1982	1985	1986	1988	1992	1993	1996	1999	2002	2005	2008
0025	-	-	-	-	-	-	4	4	4	-	3-4	4	4	4	-
0050	-	-	-	-	-	-	3-4	3	4	-	-	-	-	-	-
0100	5	5	5	5	-	4	3-4	3-4	4	-	4	4	3-4	4	4
0200	5	4	4-5	5	4	-	4	3-4	4	-	3-4	3-4	4	3-4	3-4
0300	3-4	3-4	2-3	3	3	-	3	3	3-4	-	3	3	3	3	3
0400	3-4	3-4	3	3	3	3	3	3	3	-	-	-	-	n/s	-
0500	4-5	4	3-4	3-4	3-4	-	4	4	4	-	3-4	4	4	3-4	4
0600	2	2	3	3	3	3	3	3	3	-	3	3	3	3	3
0800	-	-	3	3	3-4	3-4	3-4	4	4	-	-	-	-	-	-
0810	2-3	2	2	3	2-3	3-4	3-4	-	-	-	-	-	-	-	-
0900	2	2-3	2-3	2-3	3	3	3	3	3-4	-	3-4	3-4	4	3	3
1000	-	-	3-4	3	3	3	3	3	3-4	-	-	-	-	-	-
1100	-	4	3-4	3-4	3	-	-	3	3-4	-	3	3-4	3-4	3	3
1200	4	4	4	4	3-4	3-4	3-4	3	4	-	3-4	3-4	4	3	4
1300	5	4	5	5	4-5	4	4	4	4	-	4	4	4-5	3-4	4
1400	4-5	4-5	4-5	4	4	4	4	4	4	-	4	3-4	4	3-4	4
1450	-	-	3	3	2-3	-	4	4	-	4	-	-	-	-	-
1500	4-5	4	4-5	4	4	-	4	4	-	4	4	4	3-4	3-4	4
1600	4-5	4-5	4	4	-	-	4-5	4	-	4	4	4	3-4	4	4
1700	4-5	4	4	4	-	-	4-5	3-4	-	4	4	4	4-5	4	4
1800	-	-	-	4	4	-	4	4	-	3-4	4	4	4	3-4	-
1930	-	-	-	3-4	3-4	-	3-4	-	-	3-4	3-4	3-4	3-4	4	4
2000	5	3-4	3-4	3-4	3-4	-	3-4	-	-	3	3-4	3-4	3-4	3-4	4
2100	-	-	3-4	4	3-4	-	3-4	-	-	4	-	-	-	-	-
2200	5	3-4	4-5	4	-	-	4	4	-	4	4	4	4	4	4
2300	5	4	4-5	4-5	-	-	4	4	-	4	4	4	4-5	4	4
2400	5	4	5	5	4	-	4	4	-	4	4-5	4	4	4	4
2500	-	-	-	4	3-4	-	4	-	-	3-4	-	-	-	-	-
2510	-	-	-	2-3	2-3	-	-	4	-	-	-	-	-	-	-
2600	3-4	3	4	4	3-4	-	3-4	3	-	3	2-3	2-3	3-4	3-4	4
2700	4-5	3	3-4	4	3-4	-	3-4	3	-	3	3	3	3	3-4	3-4
2750	-	-	-	-	-	-	-	-	-	3	3	3	3-4	3-4	4
2800	4-5	3-4	2-3	2-3	3	-	3	-	-	-	-	-	-	-	-
2850	-	-	-	-	-	-	-	3	-	3	3	3	3	3	3

**Assessment:** Mostly satisfactory following improvement at eight locations. Ecological quality was good at 15 locations, moderate at two and poor at five. Continuing polluted downstream of Templemore, in and downstream of Thurles as far as Holycross, and also just upstream of Carrick-on-Suir. The crayfish, a protected species, was recorded at 15 of the 22 sites examined. These successfully reproducing populations could be threatened if reports of the introduction of an alien crayfish to the Suir turn out to be correct. . .

Station	Station Location	National	Grid Ref.	Discovery	County Code
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No.		X	Y	Series No.	
0025	Skehanagh Br	210165	178273	59	TY
0050	Killough Br	0	0	0	TY
0100	Knockanroe Br	213506	177642	60	TY
0200	Knocknageragh Br	213093	172534	60	TY
0300	Penane Br	212437	169265	60	TY
0400	Loughmore Br	0	0	0	TY
0500	Rossestown Br	213394	162447	60	TY
0600	Br in Thurles	212895	158636	66	TY
0800	Just N of Turtulla Ho (Main channe	0	0	0	TY
0810	Just N of Turtulla Ho (RHS)	0	0	0	TY
0900	Cabragh Br	211242	155876	66	TY
1000	2 km d/s Cabragh Br, Beakstown	0	0	0	TY
1100	Br at Holycross	209054	154131	66	TY
1200	Twoford Bridges	207006	151538	66	TY
1300	Ardmayle Br	205194	145971	66	TY
1400	Camus Br	204633	143106	66	TY
1450	D/s Black Stream (LHS)	0	0	0	TY
1500	Golden Br	201224	138387	66	TY
1600	New Br	200209	134188	66	TY
1700	Br 2 km u/s Caher	205946	126322	74	TY
1800	Br in Caher	204978	124774	74	TY
1930	Nr Killeenbutler	205897	122117	74	TY
2000	Br at Ardfinnan	208308	117567	74	TY
2100	Fords nr Ballyveera	0	0	0	TY
2200	Newcastle Br	213040	113658	74	TY
2300	Knocklofty Br	214416	120616	74	WD
2400	SE of Marfield	217676	121239	74	WD
2500	East Br, Clonmel (RHS)	0	0	0	TY
2510	East Br, Clonmel (LHS)	0	0	0	TY
2600	Sir Thomas Br	223847	122857	75	WD
2700	Kilsheelan Br	228617	123217	75	WD
2750	N of Churchtown	233380	122808	75	WD
2800	Coolnamuck Weir	0	0	0	WD
2850	1.5 km u/s Carrick-on-Suir	238510	121890	75	TY

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**Site Altitude and Upstream Catchment Characteristics (where available):**

Station No.	Alt	Area	Sil	Cal	Pasture	Forestry	Bogs	Urban	Misc	Ag.	Water	Other
0025	142	8	100	0	30	49	0	0	0	0	0	21
0050	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0100	116	21	63	36	68	23	0	0	1	0	0	8
0200	107	96	21	79	80	7	3	1	4	0	0	5
0300	103	156	17	83	82	6	3	1	5	0	0	5
0400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0500	96	220	12	88	80	5	4	1	6	0	0	5
0600	94	229	12	88	80	5	4	1	6	0	0	4
0800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0810	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0900	91	443	6	94	71	5	10	1	8	0	0	5
1000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1100	83	492	6	94	71	5	9	1	9	0	0	5
1200	75	497	5	94	71	5	9	1	9	0	0	5
1300	65	801	19	81	76	4	6	1	10	0	0	4
1400	64	850	18	82	76	3	6	1	10	0	0	4
1450	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1500	59	N/A	26	74	76	4	5	1	10	0	0	4
1600	53	1090	25	75	76	4	5	1	10	0	0	4

1700	42	1557	28	72	75	5	5	1	10	0	4
1800	40	1563	28	72	75	5	5	1	10	0	4
1930	36	1583	28	72	75	5	5	1	10	0	4
2000	30	1678	27	73	74	5	5	1	11	0	4
2100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2200	27	1941	31	69	70	6	8	1	10	0	5
2300	20	2107	35	65	68	6	8	1	11	0	6
2400	17	2132	35	65	68	6	8	1	11	0	6
2500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2510	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2600	12	2181	35	65	67	6	8	1	11	0	6
2700	9	2639	30	70	69	6	7	1	12	0	5
2750	7	2699	31	69	68	6	8	1	12	0	5
2800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2850	4	2730	31	69	68	6	7	1	12	0	5

Alt is in metres Area is km2 and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

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**Waterford County Council  
Comhairle Chontae Port Láirge**

**Appropriate Assessment Conclusion Statement**

<b>Development Type</b>	Historic Landfill Site
<b>Development Location</b>	Coolfin, Portlaw S476149
<b>Natura 2000 sites within impact zone</b>	River Suir SAC (River Clodiagh)
<b>Qualifying features of Natura 2000 sites within impact zone</b>	Alluvial Wet Woodlands and Yew Wood, Floating River Vegetation, Atlantic Salt Meadows, Old Oak Wood and Eutrophic Tall Herbs Sea Lamprey, Brook Lamprey, River Lamprey, Freshwater Pearl Mussel, Crayfish, Twaité Shad, Atlantic Salmon, Otter
<b>Description of the project</b>	Municipal landfill site closed since 1994 Covering 1.0 ha and 5-10m deep, capped with 0.3m of topsoil
<b>Describe how the project could affect the Natura 2000 site</b> Impacts on water quality and protected habitats and species in the SAC	
<b>If there are potential impacts explain whether these are considered to be significant</b> Leachate from the site has been classified as a low risk- Class C from a Tier 2 exploratory investigation of the site and impacts on water quality in the SAC from this landfill are not considered significant. Impacts on species density, disturbance, fragmentation of habitat and key relationships supporting the function and structure of the site are not considered significant.	
<b>Are there other projects or plans that together with the project being assessed could affect the site?</b> Not at present	
<b>Conclusion of assessment</b> Finding of no significant impacts on the conservation objectives for and integrity of the River Suir SAC from the historic landfill site	
<b>Documentation reviewed for making of this statement</b> Tier 2 Exploratory Investigation Report for Coolfin Landfill Waterford County Council (2010) Report on Ground Investigation, Interpretative Report prepared by PGL priority geotechnical for Waterford County Council (2010) The Status of EU Protected Habitats and Species in Ireland NPWS (2009) River Basin Management Plan for the South Eastern River Basin District (2009)	

Otter Survey of Ireland 2004/2005, Irish Wildlife Manual No. 23 NPWS (2006) A survey of juvenile lamprey populations in the Corrib and Suir catchments, Irish Wildlife Manual No. 26 NPWS (2007) Water Quality monitoring data from the EPA website <a href="http://www.epa.ie">www.epa.ie</a>	
<b>Completed by:</b>	Bernadette Guest, Heritage Officer
<b>Date:</b>	10 <sup>th</sup> November 2010

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