



REPORT

Biffa Waste Services Ltd

Eye Landfill, Eastern Extension

Habitats Risk Assessment

Submitted to:

Biffa Waste Services Ltd

Coronation Road
Cressex
High Wycombe
Buckinghamshire
HP12 3TZ

Submitted by:

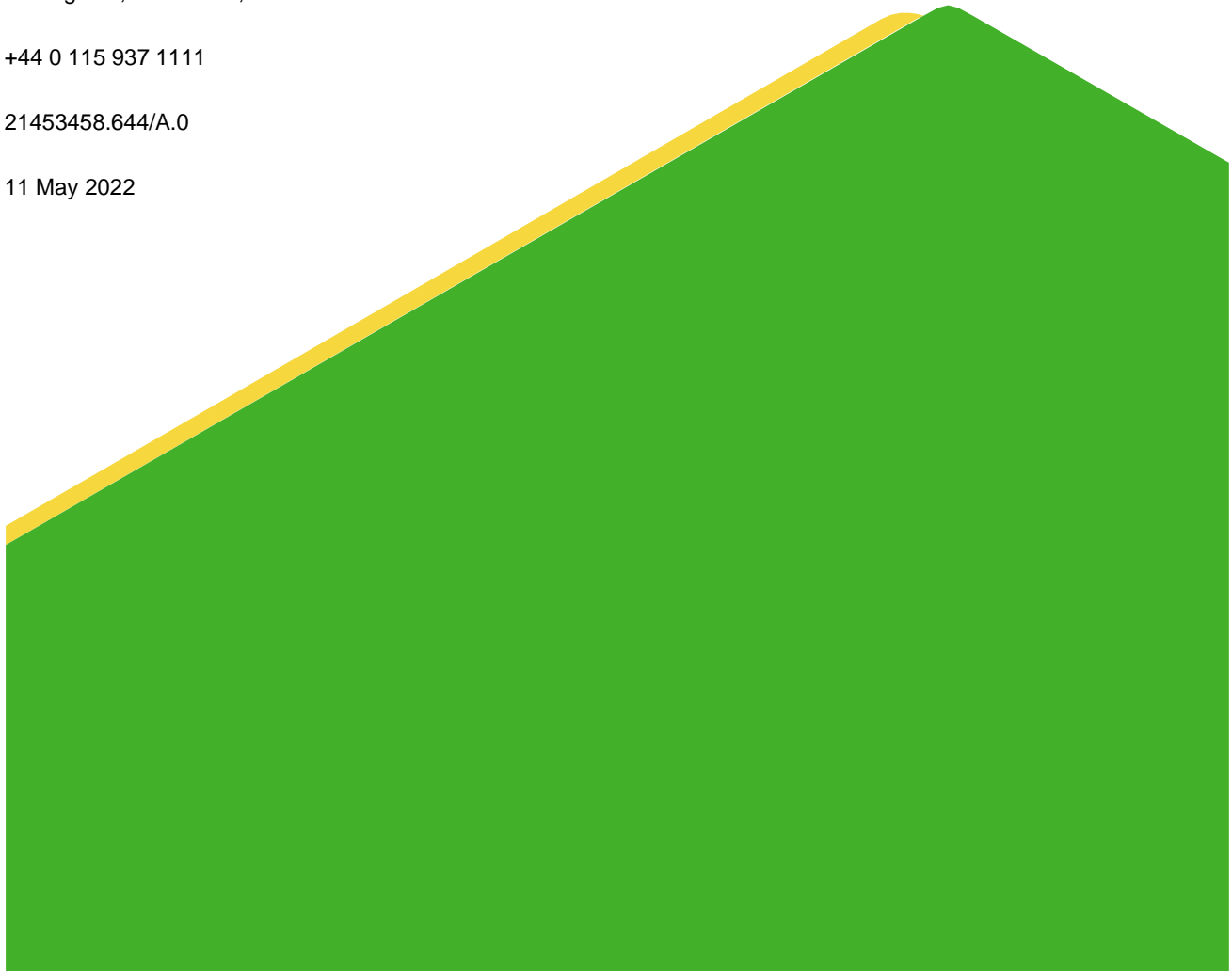
Golder WSP

Attenborough House, Browns Lane Business Park, Stanton-on-the-Wolds,
Nottingham, NG12 5BL, UK

+44 0 115 937 1111

21453458.644/A.0

11 May 2022



Distribution List

Biffa Waste Services Ltd - 1 pdf

Environment Agency - 1 pdf

Golder, member of WSP UK Ltd - 1 pdf

Table of Contents

1.0	INTRODUCTION	1
2.0	HABITATS REVIEW	1
3.0	IDENTIFIED HABITATS SITES (SPA, SAC AND RAMSAR).....	1
3.1	Special Protection Area Designation	1
3.2	Special Area of Conservation Designation	2
3.3	RAMSAR Designation.....	3
3.4	Site of Special Scientific Interest Designation	4
4.0	HABITATS ASSESSMENT.....	4
4.1	Stage 1 - Screening	4
4.2	Stage 2 – Appropriate Assessment	4
4.2.1	Toxic Contamination	4
4.2.1.1	Landfill Gas	4
4.2.1.2	Toxic Leachate	4
4.2.1.3	Contaminated Dusts	4
4.2.1.4	Toxic Waste	4
4.2.2	Smothering.....	5
4.2.2.1	Dust.....	5
4.2.2.2	Litter	5
4.2.3	Disturbance	5
4.2.3.1	Noise/Vibration	5
4.2.3.2	Visual and Human Presence	5
4.2.4	Predation.....	5
4.2.4.1	Gulls.....	5
4.2.4.2	Rodents:.....	5
4.2.5	Nutrient Enrichment	5
4.2.5.1	Nutrient Rich Wastes	5
4.2.5.2	Leachate	6
4.2.6	Habitat Loss	6
4.2.6.1	Surface Water:	6
4.2.6.2	Land Encroachment.....	6

4.2.6.3 Landfill Gas6

4.2.6.4 Explosive Wastes6

4.2.7 Siltation6

4.2.7.1 Suspended Solids6

4.2.7.2 Mud6

5.0 CONCLUSION.....6

6.0 REFERENCES7

APPENDICES

APPENDIX HAB1
Risk Matrix

1.0 INTRODUCTION

Biffa has requested Golder, member of WSP in UK (Golder), to prepare an Environmental Permit variation application for the landfilling of non-hazardous and inert waste in an extension to Eye Landfill.

Biffa proposes to develop parts of neighbouring Willow Hall Farm Quarry and Inert Landfill as a non-hazardous landfill (to be called the Eastern Extension) for continuous and uninterrupted landfilling operations after the current Southern Extension at Eye Landfill is completed. The Southern Extension is regulated under Environmental Permit EPR/BP3537PP/V010.

The permitted waste list for the Eastern Extension will be the same as that currently approved for the Southern Extension *excluding* stable non-reactive hazardous waste. Wastes may also be received at the landfill for use in restoration, in accordance with the Environmental Permit.

In accordance with the Conservation of Habitats and Species Regulations 2017 (as amended), a Habitats Assessment is required to determine if a project may affect the protected features of a habitats site. This assessment has been prepared using the Habitats Regulations Assessment Handbook and has been carried out to satisfy the requirements of 'Appropriate Assessment'.

This Habitats Risk Assessment is provided to accompany an Environmental Permit variation application (EPR/BP3537PP/V011) for the Eastern Extension development.

2.0 HABITATS REVIEW

Relevant Habitats sites within a 5 km radius of Eye Landfill and known Habitats sites wholly or partially within 5 km, are shown on **Drawing ESID3 – Cultural and Natural Heritage** in the Environmental Setting and Installation Design report (ref. 21453458.632). A sensitivity matrix identifying which species/habitats (features) protected on the Habitat site are sensitive to potential hazards caused by landfill operations is provided in **Appendix HAB1**.

The Nene Washes (SPA/SAC/Ramsar/SSSI) was identified as being within 5 km of the Site boundary; it is this Site which is the subject of the remainder of this report.

3.0 IDENTIFIED HABITATS SITES (SPA, SAC AND RAMSAR)

Located approximately 2.7 km south of the Site is the Nene Washes (NGR TL 200 977 to TF 395 029), a Habitats Site which has been classified as a SPA, a SAC and a SSSI. Nene Washes is also a Ramsar site, under the Ramsar Convention for its Internationally Important Wetland Species. The Nene Washes is an extensive area of seasonally flooding wet grassland and grazing marsh in the lower reaches of the River Nene, Cambridgeshire, and also comprises areas of open water including Moreton's Leam. The area is of importance for national and international populations of breeding and wintering waders and wildfowl. Information from the Joint Nature Conservation Committee has highlighted the following designated features for each classification (1-3).

3.1 Special Protection Area Designation

The Nene Washes SPA qualifies as 'A wetland of international importance'. The area qualifies under Article 4.2 of the directive (79/409/EC) by regularly supporting at least 20,000 wildfowl. Over winter, the area regularly supports 25,437 individual waterfowl (5-year peak mean 1991/2 – 1995/6) including:

- Blacktailed Godwit *Limosa limosa islandica*;
- Lapwing *Vanellus vanellus*;
- Pochard *Aythya farina*;
- Teal *Anas crecca*;
- Gadwall *Anas strepera*;
- Wigeon *Anas Penelope*;
- Shoveler *Anas clypeata*;
- Pintail *Anas acuta*;
- Ruff *Philomachus pugnax*; and
- Bewick's Swan *Cygnus columbianus bewickii*.

Nene Washes qualifies under Article 4.1 of the Directive (79/409/EC) by supporting populations of European importance during the breeding season, of the following species:

- Ruff *Philomachus pugnax*, 1 individual representing at least 9.1% of the breeding population in Great Britain (Count as of 1993); and
- Spotted Crake *Porzana porzana*, 5 individuals representing at least 10.0% of the breeding population in Great Britain (5-11 males = minimum).

Nene Washes further qualifies under Article 4.1 by supporting over winter:

- Bewick's Swan *Cygnus columbianus bewickii*, 1,718 individuals representing at least 24.5% of the wintering population in Great Britain (5 year peak mean 1991/2 – 1995/6) and
- Ruff *Philomachus pugnax*, 91 individuals representing at least 13% of the wintering population in Great Britain (5 year peak mean 1991/2 – 1995/6).

Nene Washes also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species during the breeding season:

- Black Tailed Godwit *Limosa limosa*, 16 pairs representing <0.1% of the breeding Western Europe/W Africa population (count, as at 1992).

Nene Washes also qualifies under Article 4.2 by supporting populations of European importance overwinter of the following:

- Pintail *Anas acuta*, 1,435 individuals representing at least 2.4% of the wintering Northwestern Europe population (5 year peak mean 1991/2 – 1995/6); and
- Shoveler *Anas clypeata*, 413 individuals representing at least 1.0% of the wintering Northwestern/Central European population.

3.2 Special Area of Conservation Designation

Nene Washes is also a SAC due to the presence of the following Annex II species:

- Spined loach *Cobitis taenia*. The spined loach is a small bottom-living fish restricted to rivers and drainage ditches in central England and East Anglia.

3.3 RAMSAR Designation

Nene Washes is also a Ramsar site, designated under the Ramsar convention for its Internationally Important Wetlands Species especially as a Waterfowl Habitat. Nene Washes qualifies under Criterion 6 of the convention by supporting the following:

- Tundra swan, *Cygnus columbianus bewickii*, 694 individuals, representing an average of 2.3% of the population (5-year peak mean 1998/9-2002/3).

The following species were identified subsequent to designation for possible future consideration under criterion 6:

- Black tailed godwit, *Limnos limos islandica*, 482 individuals, representing an average of 1.3% of the population (5-year peak mean 1998/9-2002/3 – Spring peak); and
- Northern pintail, *Anas acuta*, 1848 individuals, representing an average of 3% of the population (5-year peak mean 1998/9-2002/3).

The Ramsar Site also supports the following fauna species at levels of national importance:

- Whooper Swan *Cygnus Cygnus*, 80 individuals, representing an average of 1.3% of the GB population;
- Eurasian wigeon, *Anas crecca*, 2015 individuals, representing an average of 1% of the GB population;
- Northern shoveler, *Anas clypeata*, 343 individuals, representing an average of 2.3% of the GB population;
- Common pondweed, *Aythya farina*, 1795 individuals, representing an average of 3% of the GB population;
- European golden plover, *Pluvialis apricaria apricaria*, 2949 individuals, representing an average of 3% of the GB population; and
- Ruff, *Philomachus pugnax*, 98 individuals, representing an average of 14% of the GB population.

Nationally important floral species occurring at Nene Washes includes the following:

- Fringed water lily *Nymphoides peltata*;
- Hair-like pondweed *Potamogeton trichoides*;
- Marsh dock *Rumex palustris*;
- Fries Pondweed *Potamogeton friesii*;
- Narrow Leaved Water Plantain *Alisma lanceolatum*; and
- Sea Barley *Hordeum marinum*.

Invertebrate records suggest that Nene Washes is a good relict fenland fauna for several groups, reflecting the diversity of wetland habitats. Four Red Data Book species have been recorded.

- Aquatic snail *Valvata macrostoma*;
- Water beetle *Agabus undulates*;
- Dragonfly *Libellula fulva*; and
- Hoverfly *Anasimyia interpuncta*.

3.4 Site of Special Scientific Interest Designation

Nene Washes represents one of the country's few remaining areas of washland habitat which is essential to the survival nationally and internationally of populations of wildfowl and waders. Nene Washes is additionally notable for the diversity of plant and associated animal life within its network of dykes. The SSSI comprises eight units, the status of which were assessed in March 2022 by Natural England. Six units were identified as unfavourable recovering and two as favourable.

4.0 HABITATS ASSESSMENT

4.1 Stage 1 - Screening

The Eastern Extension has the potential to have a significant effect on Nene Washes (SPA/SAC/Ramsar/SSSI), located approximately 2.7 km from the southern boundary of the Site and therefore should be considered at Stage 2.

4.2 Stage 2 – Appropriate Assessment

All potential hazards from the Eastern Extension were considered for potential significant effect on the Habitats Site and the issues considered are detailed in the sections below.

4.2.1 Toxic Contamination

4.2.1.1 Landfill Gas

The Landfill Regulations require landfill gas to be collected and utilised where possible at landfills receiving biodegradable waste. The installation will include engineered containment, gas abstraction and management systems and therefore landfill gas is not likely to have a significant effect on the Nene Washes. A landfill gas generation and risk assessment (ref. 21453458.635) has been carried out and this demonstrates that landfill gas emissions will not exceed recognised Environment Agency benchmarks beyond the boundary of the installation.

4.2.1.2 Toxic Leachate

The Site will have a leachate management system. Failure of the leachate management/abstraction system could result in loss of hydraulic containment and advective leakage of leachate from the Site. A hydrogeological risk assessment (ref. 21453458.633) has been carried out and this demonstrates that potential impacts of leachate will not exceed recognised Environment Agency benchmarks beyond the boundary of the installation. Due to the distance of the landfill from the Nene Washes, it is considered unlikely that leachate could have a significant impact.

4.2.1.3 Contaminated Dusts

The Site will accept waste which has the potential to produce dust; however, a number of dust control measures will be in place at the Site to suppress dust. These dust control measures are considered in detail in the Nuisance and Health Management Plan (ref. 21453458.636). Considering the distance of the Habitats Site from the landfill and the presence of dust mitigation measures at the Site, it is unlikely that dust will have a significant impact.

4.2.1.4 Toxic Waste

The Site will not be accepting hazardous waste. Therefore, there is no risk to the Habitats Site of toxic waste that would lead to habitat loss.

4.2.2 Smothering

4.2.2.1 Dust

The Site will accept waste and will carry out daily operations, which have the potential to produce dust; however, a number of dust control measures will be in place at the Site to suppress dust. These dust control measures are considered in detail in the Nuisance and Health Management Plan (ref. 21453458.636). Considering the distance of the Habitats Site from the landfill and the presence of dust mitigation measures at the Site, it is unlikely that dust will have a significant impact.

4.2.2.2 Litter

The Site will accept waste which has the potential to become windblown and produce litter; however, a number of litter control measures will be in place at the Site. These litter control measures are considered in detail in the Nuisance and Health Management Plan (ref. 21453458.636). Considering the distance of the Habitats Site from the landfill it is unlikely that litter will have a significant impact.

4.2.3 Disturbance

4.2.3.1 Noise/Vibration

The Nene Washes is at some distance from the landfill site and as such it is unlikely that noise and vibration will have a significant impact.

4.2.3.2 Visual and Human Presence

There will be no requirement for physical intrusion by staff of the operating company or any of its associated activities and will therefore not impact on the Habitats Site. Considering the distance of the Habitats Site from the landfill it is unlikely that there will be a significant visual impact.

4.2.4 Predation

4.2.4.1 Gulls

Landfill sites accepting domestic/biodegradable or putrescible wastes are likely to attract gulls. Loafing gulls may cause disturbance by their very presence and may impact upon the breeding success of protected species. Bird control measures are considered in detail in the Nuisance and Health Management Plan (ref. 21453458.636). Considering the distance of the Nene Washes from the Site, it is unlikely that there will be a significant impact.

4.2.4.2 Rodents:

Landfill sites accepting domestic/biodegradable or putrescible wastes are likely to attract rodents. Rodents may cause disturbance by their very presence and may impact upon the breeding success of protected species. Rodent control measures are considered in detail in the Nuisance and Health Management Plan (ref. 21453458.636). Considering the distance of the Nene Washes from the Site, it is unlikely that there will be a significant impact.

4.2.5 Nutrient Enrichment

4.2.5.1 Nutrient Rich Wastes

The landfill is designed such that the restoration profile will shed surface water, which is intercepted and collected in perimeter ditches before being discharged. The receptors are monitored regularly and as long as the discharge meets the control limits set at this monitoring program it is unlikely that surface water discharges have the potential to cause significant impact. Surface water collected during operations in a cell containing waste will be treated as leachate.

4.2.5.2 Leachate

The Site is fully contained through engineered design and the landfill is not considered to pose a threat to the Habitats Site through leachate escape. Consideration is also given to the distance of the Habitats Site to the landfill.

4.2.6 Habitat Loss

4.2.6.1 Surface Water:

Due to the distance of the landfill from the Site, physical damage caused by surface water discharges are not considered to present a significant impact.

4.2.6.2 Land Encroachment

There will be no access required to the Nene Washes as a result of landfill operations so there will be no significant impact.

4.2.6.3 Landfill Gas

The Environmental Permitting Regulations require landfill gas to be collected and utilised where possible at landfills receiving biodegradable waste. The installation will include engineered containment, gas abstraction and management systems and therefore landfill gas is not likely to have a significant effect on the Nene Washes. A gas risk assessment (ref. 21453458.635) has been carried out and this demonstrates that landfill gas emissions will not exceed recognised Environment Agency benchmarks beyond the boundary of the installation. Considering the distance of the Habitats Site from the landfill it is also unlikely that the construction of boreholes associated with the collection and management of landfill gas will have a significant impact.

4.2.6.4 Explosive Wastes

The Site will not be accepting waste that is explosive. Therefore, there is no risk to the Habitats Site of explosions that would lead to habitat loss.

4.2.7 Siltation

4.2.7.1 Suspended Solids

The landfill will accept waste types that may give rise to dust although the relevant delivery and waste handling procedures ensure that there will be no significant impact to the Habitats Site. The distance from the Habitats Site to the landfill Site and the additional dust suppression management systems further demonstrate that there is no requirement to consider the impact of dust further.

4.2.7.2 Mud

The landfilling and associated activities may give rise to increased mud, although the relevant Site operation procedures will ensure that this is managed. Considering this and the distance of the Habitats Site from the landfill, it is unlikely that mud will have a significant impact.

5.0 CONCLUSION

It can be concluded from the information supplied, that the Eastern Extension will not adversely affect the integrity of the Nene Washes SPA, SAC, SSSI and Ramsar, as long as management controls remain effective.

6.0 REFERENCES

- 1) Joint Nature Conservation Committee, Nene Washes SAC, <https://sac.jncc.gov.uk/site/UK0030222>.
- 2) Joint Nature Conservation Committee, Information Sheet on Ramsar Wetlands (UK11046), Nene Washes <https://jncc.gov.uk/jncc-assets/RIS/UK11046.pdf>.

Signature Page

Golder WSP



Freddy Brookes
Senior Ecologist



Nicola White
Project Manager

IC/FB/NW/ab

Company Registered in England No. 01383511
At WSP House, 70 Chancery Lane, London, WC2A 1AF
VAT No. 905054942

APPENDIX HAB1

Risk Matrix

Name of European Site: Nene Washes SPA, Ramsar and SAC
 Priority Status: High

Risk		Toxic Contamination	Nutrient Enrichment	Habitat Loss	Siltation	Smothering	Disturbance	Predation/Disturbance
Landfill associated Hazards		Toxic Leachate Landfill Gas Toxic Wastes	Contaminated Dusts Toxic Wastes Landfill Gas	Nutrient rich wastes Nutrient rich leachate	Land encroachment Explosive wastes Landfill gas Monitoring boreholes etc	Mud Suspended solids Land	Dust/particles from vehicles Dust from periphery Dust from wastes Noise/Vibration	Other birds attracted to site Gulls/Corvidores Rodents
		Escape to groundwater/Escape to surface water/Discharge point Leak to atmosphere/Escape through fissure Offsite spillage/Escape to unlined area	Carried on vehicles off site/Aerial transmission Discharge to groundwater Discharge to surface water	Physical take-up of habitat or buffer zone Explosion causing distribution of products to atmosphere Escape to atmosphere/Escape to land/water outside site Construction and maintenance	Run off from surfaces/Run off from roads Discharge to surface waters	Vehicles outside boundary Vehicular disturbance Airborne from waste discharge area	Removal or change of visual signs on landfill site Human presence People in or around landfill Through atmosphere to outside of site	Live in surrounding area. Attracted to site by biodegradable wastes. Move into surrounding area Live in surrounding area. Attracted to site by biodegradable wastes. Move into surrounding area Live in surrounding area. Attracted to site by biodegradable wastes. Move into surrounding area
SAC/Ramsar species group								
Ramsar feature only	2.2 Vascular plants, lower plants and invertebrates, wet habitats	#	#	#	#	#	#	#
	2.6 Non migratory fish and invertebrates of rivers	#	#	#	#	#	#	#
SPA/Ramsar bird species groups								
	3.4 birds of lowland wet grasslands	#	#	#	#	#	#	#
	3.6 Birds of lowland freshwaters and their margins	#	#	#	#	#	#	#



golder.com