PESTS MANAGEMENT PLAN (PMP)

in regard to the

SINKFALL RECYCLING WASTE TRANSFER TREATMENT AND RECYCLING FACILITY

at

Sinkfall Farm Barrow-in-Furness

OMP Manager	Permit Number:	PMP Contacts
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Revisions

EXECUTIVE SUMMARY

ES 1. Environment Agency Updated Policy

The site is at a distance of 180 metres away from third party sensitive receptors (third party dwellings/ workplaces). These are taken into account within this Pests Management Plan (PMP).

The Sinkfall Composting Facility Environmental permit **EPR/DB3701SN/V003** was varied to include additional waste types and treatment technologies (drilling mud and road sweepings); and again in 2024 to include Clinical Waste and Hazardous Waste Transfer.

The plan utilises the headings from the EA Template and Guidance on Pests Management, supplemented by site specific information and wider research.

The Plan sets out the location of the site with regard to nearby sensitive receptors and adopts the 'Source Pathway Receptor' approach in order to fully consider the risks that the site may pose with regard to the receptors. Therefore, the plan begins with attention to the nature and quality of the feedstocks being managed, and then includes the technological means of managing, treating and processing them, containment and appropriate measures for minimising any infestation of pests. This includes the day to day management, including operator training and sensible operating procedures. This Pests Management Plan adopts this approach, and includes properly developed contingency measures and emergency procedures in case of accident or failure in order to provide the means for quick reaction and management of such incidents.

This Pests Management Plan relates to the **Sinkfall Recycling Facility, Rakesmoor Lane, Barrow-in-Furness, LA14 4QE** and relates to the Environmental Permit 2024.

ES 2. Sensitive Receptors and Prevailing Wind Directions

The nearest receptors are in the easterly direction, a separation distance of just greater than 180 metres. (see map/plan at section 2). In all instances the receptors are rural dwellings. Winds blowing from the west would have greatest significance. There are also dwellings in the west and further north, but these dwellings are much more than 250 metres distant from the facility.

ES 3. The Source - Materials Processed in the Facility

The waste materials to be transferred or processed have been pest risk assessed. The majority tonnage of waste materials takes the form of soils and aggregates. Some materials are simply transferred with only minimal time spent in storage at the site. Some materials are seasonal, e.g. the green waste that is destined for composting. This does not include domestic food scraps (catering waste) and therefore shall in the main entail a 'LOW' pest risk rating. Being a rural area, the ratio of woody (carbonaceous) green waste to volatile (nitrogen rich grassy) waste is expected to be high and therefore provides useful buffering of the proteins and ensures a high carbon to nitrogen ratio, with least attraction to flies, and temperatures generated that kill larvae. The quantity of Green Waste is comparatively LOW at 2-3,000 tonnes per year. The composting of Green Waste has been undertaken successfully for several years without pest issues.

The scheme provides Technological and Physical systems that provide containment of much of the processing and in particular, the wastes that entail food or Clinical waste that could present an attraction to pests are in very small quantities and are held in very specific, secure steel containers. Animal By-Products shall be containerised and held in a specialist chilled storage container.

ES 4. The Pathway

The pathway from source to receptors maybe via air (flies and birds) or along hedgerows and gutters (rats and vermin). Various technical measures are provided in order to contain, attenuate and mitigate against pests along these pathways, however, the greater attention is given to solving the problem at source and minimising the attraction and presence of pests in the first place.

ES 5. Pest Control

Pest Control is undertaken by controlling the waste types, storage period containment, and time on site. If necessary, specific waste types at specific times of the year, may have an accelerated turn-around time on site; or may not be held at the site, or may be rejected from entering the site.

The site utilises a hierarchy of controls with the priority being avoidance of pests at the site, then reduction by technical measures and operational procedures to deter pests including the reduction removal or full containment of specific pest attractive materials; and finally, resorting to systems for controlling or destroying pests if required.

There are rarely any gulls near the site. There has never been cause to use fly control insecticides. The site has an annual contract for in the services of a Specialist Pests Control company. The contract is focussed on rats and vermin, for which the specialist installs bait boxes and undertakes regular inspections to determine if bait has been taken, and also to check for any remains.

Daily Monitoring (each evening). The site keeps terrier dogs and undertakes a daily walk round in order to check for rats and vermin hiding. This also provides an excellent deterrent.

The single most crucial key to pest control at the site is the rate at which the material is processed and then transferred out of site, which for domestic refuse and other biodegradable materials (excludes the compost), will typically be within 48 hours.

ES 6. The Building enclosure

There are buildings for Waste Transfer, Waste Transfer and Treatment, Composting, and Drying. These are supplemented by specialist steel containers for holding specialist wastes such as Clinical Waste; and the Food Waste that will be subject to chilled storage when required.

The Composting follows a Quality Management system and has never had any pest issues.

ES 7. Contingencies

Full steam cleaning ‘clean-downs, can be undertaken where and when required. The contingencies in the case of a pest infestation may include the ceasing of the intake of any specific material that is found to be an attractant for pests (direct and immediate transfer to a disposal site).

ES 8. Monitoring and response to Complaints

Procedures (and facilities) for Personal Pests ‘Monitoring’ (walk round checks), and for receiving and reacting to pests complaints have been devised and shown at Appendix 1.

ES 9. Key Benefits of Scheme

The key benefits of the Partially Enclosed Composting scheme include:

1. Quality Managed Composting process that has never had a pests (flies etc.) issue
2. Majority of the wastes are inert material – metals, dry recyclables, soil, and aggregates
3. Very short and rapid turn-around of biodegradable (pest attractive) materials
4. Use of secure fully enclosed steel containers for clinical waste and chilled food waste.
5. Clinical Waste is maintained bagged (packaged) and contained in euro bins, within a secondary steel container to provide pests management, pests protection and security
6. Hazardous Waste is not attractive to pests.
7. Daily monitoring procedure and contract for Professional Rat/vermin control company.

ES 10. Conclusions - Pests Risk Management

Primarily due to the enclosed secure containment and rapid turn-around of pest-attractive materials and high level of management, there is **MINIMAL** risk that the site may present a pests nuisance that affects nearby receptors.

CONTENTS

SINKFALL QUALITY ASSURANCE for the MANAGEMENT OF PESTS

Senior management responsibilities and review

QA1 Policy and Commitment

Sinkfall Recycling is committed to managing effectively the on-site attraction to and presence of pets including flies, rats, vermin and birds.
This commitment is with due regard to the well-being of people in the nearby dwellings, the health and safety of staff and visitors and also to meet the service level standards for our customers.

The site provides its contact details for enquiries or complaints Office Tel: 01229465000

QA2 Roles and Responsibilities

The responsibility for this PMP and its implementation is as described below:

The operation of the Sinkfall Recycling is the responsibility of the Directors of the company;	**Brian Armistead** **Luke Armistead**
The Facility has a dedicated Site Director and Site Manager who have overall responsibility for the daily operations.	**Luke Armistead** **Tony Layfield**
Administration – Pest control Services – contract delivery Training - Pest/identification, Health and Safety (Rats)	**Helen Stevens** **Michaela Hoggarth**

Site staff are trained and responsible for maintaining an awareness of site performance during their daily activities and shall report any instances of pests to the Site Manager without delay.

QA3 Pests Management Plan Review

The Pests Management Plan will be reviewed by senior management **at least once every 3 years** or immediately following **any change** or any major incident / event. Any technical and managerial changes on site will also initiate a review of the PMP to ensure that the Pest control techniques and associated systems remain appropriate for the site.

SECTION 1. INTRODUCTION SITE LOCATION and SITE PLAN

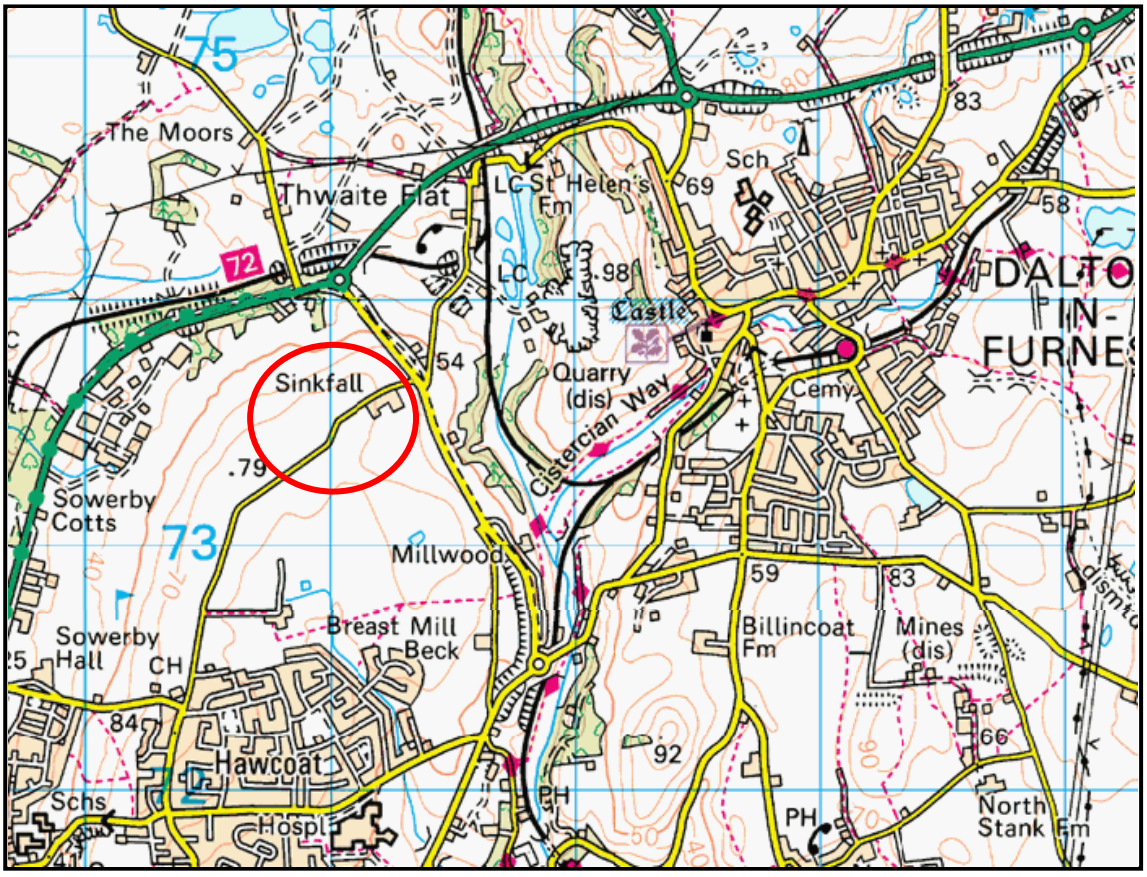
1.1 Site Location

This provides the location and details of management responsibilities. It provides a plan of the site, appropriately marked with points showing the activities and other environmental aspects that are referred to within the management system.

Site Location:

Sinkfall Farm,
Rakesmoor Lane
Barrow-in-Furness, F
Cumbria
LA14 4QE National Grid Reference: **SD2118,7358**

Figure 1. Extract from Map (1km grid) Showing location of Composting Facility.



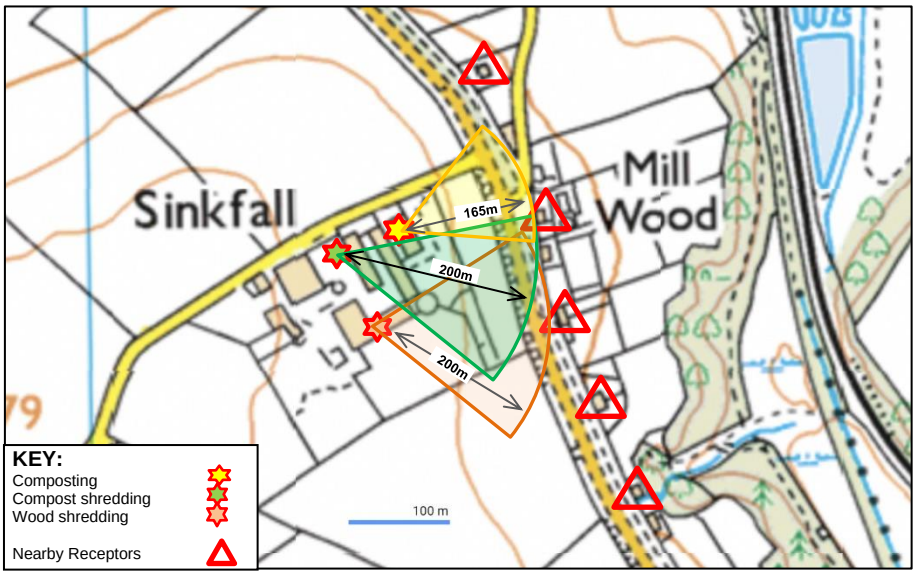
Operator: **Brian Armistead Ltd.**
Site Manager: **Mr. Brian Armistead**

Office Tel: 01229465000
Mobile: 0783141414569

The hours of opening are **07:00 until 18:00 Monday to Friday**
07:00 until 16:00 Saturdays
Outside of these times (emergency etc.) by special arrangement

Site Situation with Site Situation with Regard to Sensitive Receptors

Figure 2. Site Plan (outlined green ink) in relation to nearest sensitive receptor dwellings (marked △)

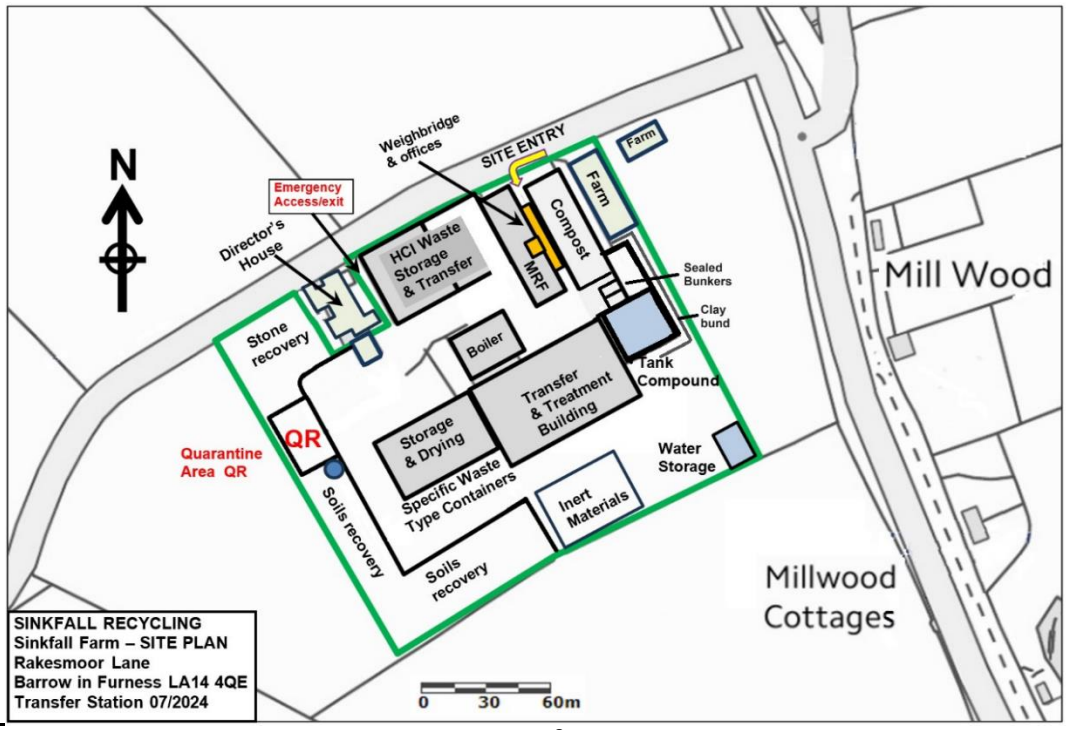


The composting site is located at a reasonably remote site that is set in a rural area. The nearest third parties/ receptors are rural dwellings along 'Park Road' known as 'Mill Wood', and Mill wood cottages; and are located as follows:

Table 5 Wind Directions & Sensitive Receptors

North	Open fields up-hill with extended distance down to woodland and houses at Bouth Wood beyond 500m
East	Rural housing beyond 250m east at Mill Wood near the junction of Rakesmoor Lane and Park Road.
South	Fields with hedgerows and extended distance down to roadway and few houses beyond.
West	Open fields with hedgerows and extended distance (~800m) before The business park at Sowerby wood

Figure 3. Site Plan Showing Principal Areas of Activity



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MCIWM CEnv. Tel: 01743 340630

SECTION 2. SOURCE OF PESTS - REVIEW OF WASTES

2.1 Determining Likely Source Attractions for Pests

The scheme has been designed to either contain or minimise the attractiveness for pests and therefore mitigate against rat and fly infestations. The key areas of interest include:

Table 1. Principal areas and sources that may attract pests.

	Waste type - activity	Potential for Pests	Comment
a	Green Waste as received	Garden waste could attract flies	Shredded, blended with wood, composted
b	Composting Process	High temperatures (70C)	Quality Management system, kept aerobic
c	Effluent	Dilute, yard rainwater	Highly diluted watery effluent, low fly attraction
d	Sludge	Wet mud	Minimal quantities, enclosed area.
e	Wood	No attraction for pests	
f	Metals	No attraction for pests	
g	Glass	Some residual liquids wine/milk	Bottles crushed to cullet, rapidly removed
h	Paper and Cardboard	No attraction for pests	Baled daily rapidly removed
i	Plastics	Residues of contents of bottles	Baled daily, rapidly removed
j	Plasterboard	No attraction for pests	Containerised
k	Asbestos	No attraction for pests	Containerised
l	Clinical Waste	Stale material (urine etc.)	poly-bag wrapped, in Euro + 2nd container
m	Hazardous Waste	No attraction for pests	Containerised
n	Soils	No attraction for pests	External
o	Aggregates	No attraction for pests	External
p	Food Waste	Attractive to flies/ rats/ vermin	Food waste is held in euro bins and secondary metal container chilled as required.
Q	Quarantine Debris	Burnt ash	
R	HCI Residual Waste	Attractive to flies/ rats/ vermin	Waste is processed daily, rapidly removed.

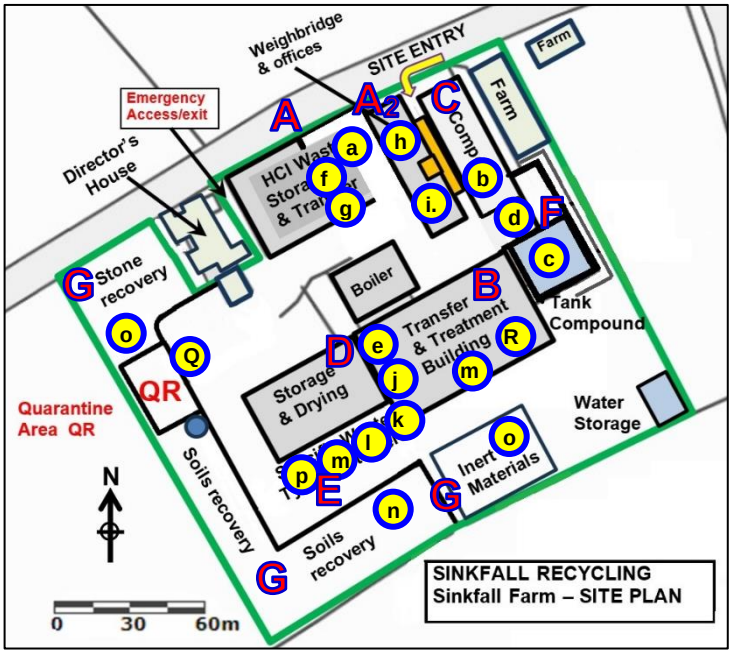
Table 1 provides the register of the potential pests attractions, together with a comment to describe the risk of attraction and the control measures. These are assessed within Fig. 4. and Table 2.

2.3 Site Plan showing Waste specific locations

The site plan is used to identify the key locations of the site where the pest attraction RISK is greater.

Figure 4 Site Plan of Processes showing the Process Aspects that may entail Pests Attraction Risk

Area	Ref	Emission Source	Risk
A	a	Green Waste as received	Low
C	b	Composting Process	Low
	c	Effluent	Low
F	d	Sludge	Low
A, B	e	Wood	NIL
A	f	Metals	NIL
A	g	Glass	Low
A2	h	Paper and Cardboard	Low
A2	i	Plastics	Low
B, E	j	Plasterboard	NIL
B, E	k	Asbestos	NIL
B, E	l	Clinical Waste	**MED**
B, E	m	Hazardous Waste	NIL
G	n	Soils	Low
G	o	Aggregates	Low
B, E	p	Food Waste	**MED**
B, E	Q	Quarantine residues	Low
B	R	HCI Residual Waste	**MED**
A	A	Northern Transfer Bldg.	Low
B	B	New Transfer & Treat Bldg.	Low
C	C	Composting Building	Low
D	D	Drying Bins and Building	Low
E	E	External Secure Storage	NIL



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2.4 Waste Quantities for Composting, Transfer and/or Treatment

Feedstock quantities are forecast for the anticipated tonnage and the scheme design capacity.

Table 2: Tonnages based on Annual throughput, daily allowance and Stockpile limits.

Waste type	Annual throughput	Daily limit	In-Process Stockpile limit
Mixed Green waste (<15,000 t/yr)	Up to 3,000 t/yr	<75 t/day	500 t stockpile plus oversize
HCI Waste	25,000 t/yr	1000	1000 exc. Haz/Clinical etc
Pre-treated Waste	25,000 t/yr	1000	500 t
Construction/ demolition waste Including soils	25,000 t/yr	1000	8,000 t
Sludge waste	5000 t/yr	100	1,000 t
Clinical waste	1000 t/yr	10	50 t exc Haz
Hazardous waste	1000 t/yr	10	10 t
Other waste	25,000 t/yr	1000	2500 t

This table is generalised; and more specific details and limits are found in the Permit.

2.5 Quality management of Feedstocks

The quality of the feedstocks shall be managed by;

1. Prior agreement and specification of feedstocks that will be accepted Includes 'Pre-Acceptance Criteria' and 'Acceptance Criteria'.
2. Reference to the Planning conditions
3. Reference to the Environmental Permit conditions
4. Reference to the PAS100:2018 QMS and Compost Quality Protocol Annex B (list)
5. Reference to the Aggregates Quality Protocol List

In accordance with the Quality Management Systems, the waste or feedstock deliveries shall be in accordance with the Supply Contracts. Waste types shall have been assessed prior to formalisation of contract and relevant conditions shall have been specified.

Where required, the wastes/ feedstocks may be subjected to scientific evaluation to determine suitability for processing and any contamination issues.

Sinkfall Recycling shall reserve the right to refuse to take delivery of specific loads, as and when appropriate to maintain compliance with the QMS.

2.6 Feedstocks Rejection Policy

Sinkfall Recycling commit to operate a 'Feedstocks Rejection Policy' that means for circumstances where feedstocks have been assessed or are considered to entail an unacceptable risk (based on the pre-acceptance criteria see - EMS), then that feedstock shall be rejected and the material required to be returned to supplier or sent to alternative disposal. These terms shall form part of the feedstock contracts of supply. Staff at site shall be authorised to reject offensive material or material that has an associated high risk of entailing fly release or other pests.

SECTION 3. PROCESS MANAGEMENT WITH REGARD TO PESTS

Table 3: Inventory and Risk Assessment of Potential Incidence of Pests at the Site

Ref	Aspect	Pests Source	Risk Rating	Consideration and Control	Residual Risk
1	From raw waste within incoming Vehicles – **Green Waste**	Potential for fly larvae from within the household bins.	Med	Early treatment by shredding; compost heating regime kills larvae	Low
2	From residual bin waste within incoming Vehicles – **HCI Waste**	Potential for fly larvae from within the household black bin-bags collections.	Med	Potential for fly larvae from within the household bins. Early treatment by shredding, sorting through the MRF and then segregation and baling ; of the recyclate and waste	Low
3	Yard rainwater and **effluent** from waste, drained to effluent system	Fly larvae may be washed down. Flies may be attracted to dirty water	Low	Dirty water is very dilute. Effluent storage is aerated, and water regularly removed and taken to treatment works	Low
3	**Compost Process**	Potential for flies to be attracted to grassy waste; but feedstocks are mixed green waste.	Low	Addition of woody material, the treatment by shredding; and the compost heating regime kills larvae.	Low
4	Main Transfer & HCI treat Building Residual Waste/ Other waste	Potential for flies to be attracted to waste; Potential for rats and vermin	Med	residence time in the building is very short (24-48 hrs) Rat control measures especially in that area. Daily Monitoring using dogs	Low
	Clinical Waste bulking up	Potential for flies to be attracted to waste; Potential for rats / vermin	Med Med	Waste is poly-bag wrapped, reduces incidence of flies is then placed into Euro-bins and then enclosed within secondary container, avoids rats	Low Low
	Food Waste	bulking up to lidded Container Potential for flies to be attracted to waste; Potential for rats / vermin	Med Med	Waste is within lidded euro-bins or secure steel lidded containers reduces incidence of flies is then enclosed / chilled within secondary container, avoids rats	Low Low

The pests sources considered above help to identify the key pests risks within the system.

The focus continues with the sources and attractiveness to pests; and then the management and control to minimise that attraction and incidence; and finally on the control of the pests by removbal or destruction as shown in the Hierarchy diagram Fig 5. below:

	Hierarchy	Includes
1.	Avoid attracting Pests	Avoid or Minimise specific waste
2.	Reduce attraction of Pests	Reduce time on site, rapid/early treatment and removal
3.	Containment of Materials	Poly bags (flies), Steel lidded/ enclosed containers
4.	Engineering Controls	Shredding, segregating, compacting, baling, chilling
5.	Reduction of Pests	Site staff Monitoring and natural deterrants (dogs)
6.	Destruction of Pests	Monitoring and bait control – Professional Services

SECTION 4. FLY PEST IDENTIFICATION AND CONTROLS

4.1 Flies and Fly problems

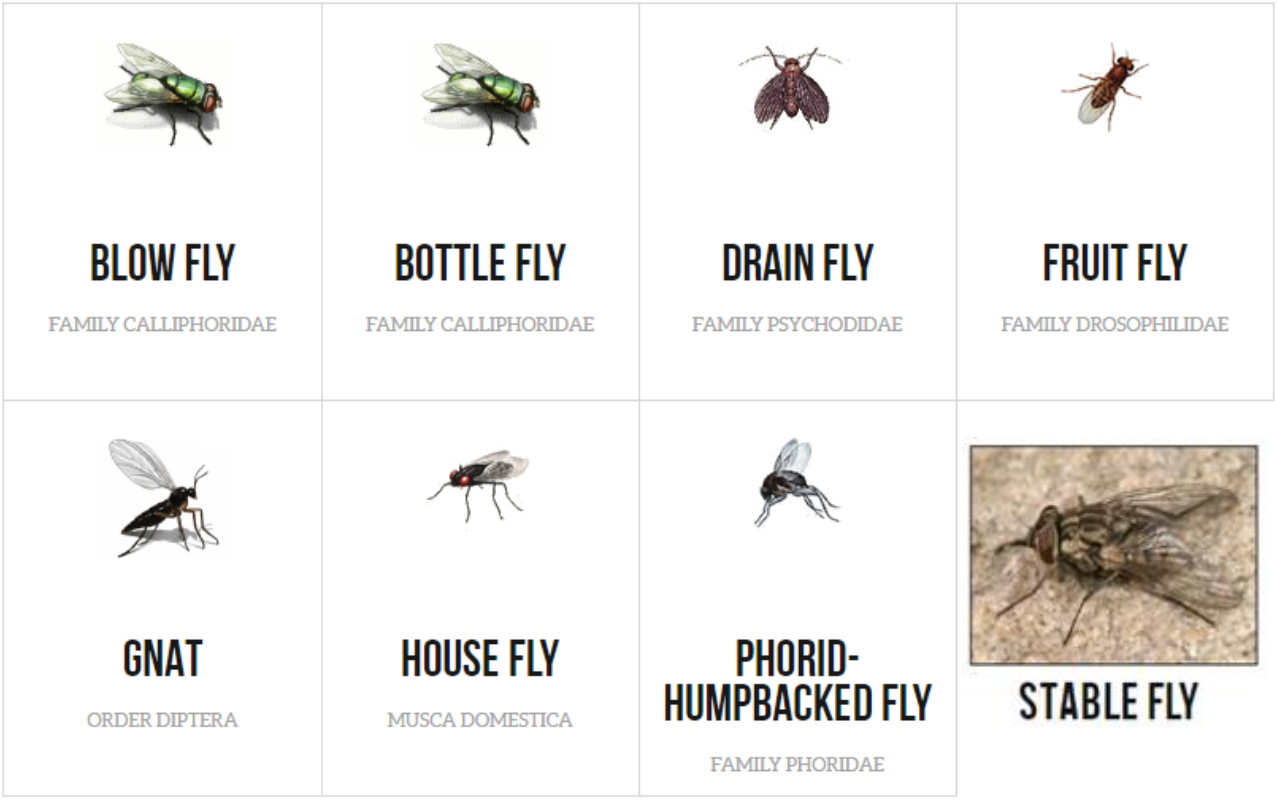
Just over 7000 species of true flies (Diptera) are known to occur in the UK. Of these, around ten species have the potential to cause regular and significant problems on and around waste management facilities and livestock sites.

4.2. Main fly species and identification

Correctly identifying the fly species at a site, or reported at receptors' premises, is critical to:
• clarify whether the reporter's flies are the same as those at the alleged source
• establish appropriate monitoring techniques
• establish appropriate prevention and control techniques

With appropriate training, the adults of most of the main fly pest species can be identified by eye, with the help of a x10 hand lens.

Figure 5: Illustrations of Fly Species



4.3. Fly sources

In general, fly larvae occur in damp, decaying organic waste. However, each species will have its preferred niche in terms of temperature, moisture levels, and the nature of the organic material. In the UK, there are two main areas in which fly problems regularly occur, agriculture and the waste management industry:

Waste management industry
Common house flies and bluebottles have always been associated with putrescible waste (especially food waste) particularly during warmer weather. Infestation typically starts at the point of waste generation, when

eggs are laid on waste in domestic or trade waste bins. The longer the period of time before the waste reaches its final disposal point (landfill, composting, incineration) the greater the opportunity for fly problems to develop. In recent years the move towards fortnightly collection of domestic refuse, the introduction of a variety of waste processing techniques, and the reduction in the number of landfill sites and amounts of waste, have increased the potential for fly infestation from bins in close proximity to housing.

Table 4, The features of common fly species that can be associated with waste management facilities

Feature	Common housefly (*Musca domestica*)	Lesser housefly (*Fannia canicularis*)
		
Size:	Typically 6-7mm long, but does vary.	Typically 4-6 mm long, but does vary.
Pattern on dorsal surface of thorax:	Four distinct longitudinal dark lines.	Three indistinct longitudinal dark lines.
Abdomen colour:	Yellow-ish at basal end.	Often yellow-ish along sides.
Wing venation:	Fourth longitudinal vein bends forwards (see below).	Fourth longitudinal vein straight (see below).
Position of wings when at rest:	Projecting out from the sides of the abdomen, giving a delta-shaped outline.	Folded one over the other, directly over the abdomen, giving a more parallel sided outline.
Adult resting behaviour	Typically resting in numbers on a range of surfaces within the building, e.g. walls, posts, ceiling etc. Sometimes in large clusters in preferred places.	Even when abundant, tends not to rest in numbers on walls or ceilings. More often resting on the manure, or on surfaces very close to the manure.

Fly species	**Typical pest status**	**Notes**
Common housefly (*Musca domestica*)	Can cause widespread and severe problems for receptors	Larvae found in poultry, pig, and calf manure and in refuse. Adult readily disperses and enters buildings.
Lesser housefly (*Fannia canicularis*)	Can cause widespread and severe problems for receptors	Larvae found in poultry manure and in refuse. Adult readily disperses and enters buildings.
Blow flies: Bluebottles / Greenbottles / Dump fly (*Calliphora / Lucilia*)	Localised problems only	Larvae found in carrion and faecal material, commonly associated with putrescible waste. Adults tend not to disperse far.
Stable flies (*Stomoxys calcitrans*)	Localised problems only	Larvae found in manure of large animals, e.g. cattle and pigs. Adult is blood-feeding, and tends not to disperse far.
Fruit flies (*Drosophila spp.*)	Localised problems only	A small (2mm) fly. Larvae found in rotting vegetation or vegetable waste, e.g. green-waste composting. Tends not to disperse far.
Cluster flies (*Pollenia rudis, Eudasyphora cyanella, Musca autumnalis*)	Localised problems only	The larvae of these flies are not found in livestock or waste facilities, but the adults do enter buildings in the autumn, and may be confused with houseflies.

4.4. Fly breeding and development

The life cycle of most flies has four main stages: egg, larva, pupa and adult, shown in the diagram below (which refers to the common housefly).

In general, the adult female will lay eggs on a suitable surface for larval development; typically damp, decomposing organic materials. The larvae will hatch out and feed on the substrate, and when fully grown

will search out a drier area in which to pupate. The adult fly will emerge from the pupa, mate, and continue the cycle. The duration of the cycle is very dependent on the temperature of the larval environment, as shown in Table 5.

Figure 6: Common housefly life-cycle

The life cycle of most flies has four main stages - egg; larva; pupa and adult.

An example for a common housefly is shown opposite.

Eggs typically hatch within 1 - 2 days. Larvae take from 3 days in summer up to a month in winter to develop.

Adult flies emerge from pupae from 3 days up to a month later depending on conditions.

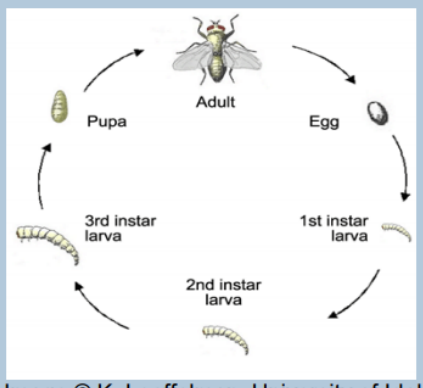


Image © K. Loeffelman, University of Idaho

Table 5: The effect of temperature on the rate of common housefly development.

Species	Approximate duration of life-cycle (egg to adult) in days				
	16°C	18°C	20°C	25°C	30°C
Common housefly	45	27	20	16	10

The higher the temperature, the more quickly flies develop and increase in numbers, and so the greater likelihood of problems. Most other fly species will develop slightly more slowly than the common housefly.

At temperatures below c.12°C, development will cease for most housefly species, while at temperatures above c. 45°C, houseflies and their immature stages will be killed. As waste decays the microbial action generates heat, which can mean the in-waste temperature is warm enough for flies to breed even in winter months if waste turnaround isn't adequate.
However, in composting systems, the material invariably is held at temperatures 45 – 65°C.

4.5. Fly dispersal

Although most adult flies stay close to their breeding sites (manure or putrescent waste), a proportion will disperse away and may cause problems at receptors. Houseflies are capable of dispersing over distances of several kilometres, although problems seldom occur at distances greater than 2-3 km from the source. Significant problems likely to cause unacceptable nuisance levels tend to occur within 500m of the source. Regulators will look at the extent of fly breeding at the alleged source rather than how far flies have dispersed to ascertain the extent of the problem. **Dispersal factors can vary, but high levels of fly breeding at the source are what normally appears to result in high dispersal levels**. Dispersal appears to be greater in calm, warm weather. A specific event, such as opening of poultry houses in preparation for removing manure, allows rapid dispersal which can cause a sudden increase in flies. Dispersing flies are difficult to find. Even where there are a large number of flies at a source, and concurrent problems with flies in nearby premises, flies are seldom visible in numbers in the intervening areas.

4.6. Problems caused by flies

The persistent presence of flies gives rise to a range of issues:

Annoyance/Nuisance
People find the continued presence of numbers of flies in their home or workplace irritating and unpleasant. Where there are breeding sites nearby, residents or employees may experience tens or hundreds of flies in their homes or workplace. Where there are no breeding grounds nearby, one or two flies would be normal. The annoyance is often increased because houseflies are difficult to control with insecticides, and are particularly attracted to kitchens and humans.

Disease transmission
Adult flies are often active on putrescent and microbially contaminated substrates. As a result, their external surfaces and gut will become contaminated with a broad range of pathogens. If these contaminated flies subsequently come into contact with people, livestock or foodstuffs, there is the potential for disease transmission. In the tropics a major source of infections in humans can be traced back to houseflies. Although fly numbers and the opportunities for contamination in the UK are typically much less, a small risk still remains.

Physical contamination
The physical presence of flies may lead to contamination issues. Flies may become incorporated into food products during manufacture, and have been found within the packaging of eggs being delivered for processing. Fly spotting (fly faeces and vomit) on eggs can lead to their rejection or downgrading. The presence of large numbers of flies in an area might also interfere with the effective operation of other nearby businesses, such as vehicle repainting. Biting. Of the flies regularly associated with waste or livestock sites, only the Stable Fly (Stomoxys calcitrans) feeds on blood. It normally feeds on large animals such as pigs, cattle or horses, but may also bite people.

SECTION 5. FLY MONITORING

5.1. Monitoring adult flies at the source

The following techniques can be used as part of a one-off inspection to gain an idea of the level of infestation, or regularly as routine monitoring to build up a picture of trends in fly numbers. Operators should carry out routine assessments as part of their proactive fly control work, the Agency only tends to carry out monitoring in exceptional circumstances.

Appropriate measure: Fly monitoring is an essential part of pest management providing a history of the problem on site and in addition, assisting in planning for the future. It is recommended that sites carry out or commission surveys of their sites to improve their understanding of where fly development and multiplication is taking place as this is likely to assist in the development of more targeted control measures.

- Trends in fly numbers at the alleged source can be compared with trends in numbers in reporters' premises, possibly providing evidence of a link.
- Monitoring data from different parts of the site, e.g. damp waste storage, effluent containment, can be used to identify localised areas where fly breeding is occurring. This will allow specific causes to be identified so operators can use more focussed or intensive control efforts.
- Monitoring flies throughout a cycle will allow 'normal' levels to be established. Any rise in numbers will be noticeable, so early additional control measures or treatment can be put in place.
- Where records have been recorded over several seasons, they may help to predict impending fly peaks, so allowing pre-emptive fly control work.
- Comparing fly numbers before and after particular fly control measures have been used will help to indicate the effectiveness of the treatment.

5.2. Monitoring adult flies at the source

Indoor resting counts for common house fly
This species readily rests in numbers on structural surfaces within buildings, such as waste transfer stations, so resting counts are often used to indicate relative population size. Typically 1 x 1m squares are outlined with white paint on internal wall surfaces, with the centre of the square at about head-height. There may be 4 – 6 squares in a waste transfer station. Squares should be located in areas where flies are seen to be resting, away from frequent people or vehicle movements, close to likely fly breeding areas, and where the square will not subsequently be obscured by waste or other materials.

The squares should be brushed occasionally to remove dust and cobwebs, and should not be sprayed with insecticide. Rising numbers of flies indicates that investigation and intervention are required.

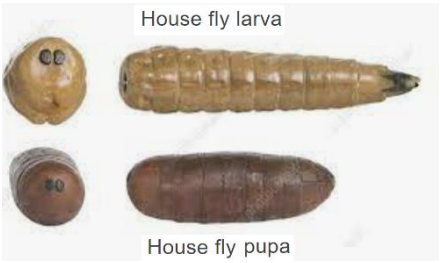
Indoor adhesive paper traps for houseflies
Adhesive fly papers are used to monitor **lesser housefly** numbers. In each building two to six 30cm wide rolls are hung up at about head height in areas where flies have been noted. At weekly intervals, a length of paper (approx.. 30cm) is pulled down from the roll, and at the end of the week, the flies stuck on the exposed paper are counted and recorded. The paper should then be torn off the roll, covered with cling-film and retained so flies can be identified and counted. A fresh 30cm length is then pulled down ready for the coming week. The size of the roll used doesn't affect the monitoring method. Operators should carry out counts from April to October and at some sites may be required throughout the year. Note: fly numbers will vary greatly between sites. Changes in numbers indicate changes in fly activity.There is no absolute number determined as a nuisance.

Open air **Scudder grid** counts for houseflies at waste sites
A Scudder grid is a standard 60cm square wooden slatted grid which is dropped onto the surface of the refuse. After a period of 10 seconds, the flies resting on the grid are quickly counted and recorded; these are likely to include common housefly and bluebottles, so an element of identification is necessary.

Avoid doing counts in cold, windy or wet conditions. **Counts should typically be carried out 2- 3 times per week from April to October.** Regular monitoring can determine 'usual' numbers for that site and therefore any rise will be easily seen.

Open air adhesive paper catches for flies at waste sites
At open air sites, such as landfill sites and waste transfer station boundaries, operators can use adhesive papers to monitor fly numbers. Pieces of adhesive paper (~ 30 x 30 cm) can be attached to a post around the site for a week, and then removed, replaced and the catch counted. The limitations are that the papers can't normally be positioned on the active tipping area as they will be damaged by vehicles. The papers also catch large numbers of non-pest species, which have to be separated from the pest species before obtaining a final count. Birds take the captive flies on papers, and adverse weather (wind and rain) will also affect the catch.

5.3. Monitoring larval flies and pupae in received loads and at the source
NOTE: This section has been supplemented by reference to pupae.

Scrape-and-count, for common houseflies


Operators can monitor larvae by **scraping the top 2 - 5cm layer from the surface of the manure or waste** over an area of approximately 30 x 30cm. The number of exposed larvae [and/or pupae] is quickly estimated, and recorded. This should be carried out at 4 – 10 locations within each building/vessel, depending on its size and the variability of the material. Larval [and/or pupae] stages are usually found where undisturbed damp manure or waste is present, rather than on surfaces that experience a lot of movement. Drainage channels that have waste residues within them can be **very productive fly breeding sites**. Good monitoring locations are those where this material is present for extended periods, **such as the effluent pit of the composting site** or the tipping face of a landfill site, allowing a series of counts to be taken and trends to be established. In premises where there is a high turnover and removal of substrate then routine monitoring of larvae [and/or pupae] may be inappropriate, and monitoring will be based on adult counts. Counts should be repeated up to twice-a-week from April to October. Consecutive counts should not be carried out on exactly the same area of waste. **One or two larvae or pupae may be considered normal**, but if numbers are much higher than this is an indication that further investigation and intervention may be required.

Sample-and-count for lesser houseflies
The majority of severe problems with **lesser houseflies** occur almost entirely in free-range poultry layer units. Counting larvae in-situ is not appropriate for lesser houseflies because of limited access to the manure in free-range poultry houses, the difficulty in seeing the young stages within the manure, and the difficulty in separating larvae from pupae. Instead, operators can use a long-handled trowel or similar to scrape a sample of ~300g manure from the top 5-7cm of the pit surface, which is then put into a white bowl or tray. They should then check each sample and count and record the number of larvae and pupae present. At best, the operator should obtain and check around four manure samples per week per poultry house.

5.4. Monitoring adult flies at reporters' premises

Monitoring should be carried out in indoor locations where the flies regularly occur in numbers. This may be a porch, outbuilding, conservatory, kitchen etc. We don't recommend monitoring houseflies outdoors owing to the diversity of the catch, and the risk of catching birds or bats on adhesive papers

Traditionally, long adhesive fly papers are used, available from DIY or farm supply stores. They're cheap, easy to use and catch flies well, although they can be difficult to handle and store after use. Single-sided adhesive fly papers should be transported in cardboard boxes and can then be stuck on white paper to identify (where possible) and count flies. Officers should take photographs of papers as they may be required for evidence. Fly papers should be replaced weekly throughout the infestation, and continue to be used after numbers have dropped so that 'usual' numbers can be recorded. For enforcement cases it is essential to be able to state what is 'usual' in that area.

Alternatively, more specialised adhesive fly catching devices are available. Although these appear to catch fewer flies, the devices may be conveniently labelled and stored after use, and re-examined later as required. The size of the fly catching paper is not relevant as long as the methodology used is consistent and is in line with the flypaper manufacturer's recommendations. Adhesive devices should be labelled and changed weekly. The catch should be identified, counted and recorded by the investigating officer. Liquid-baited fly traps are not suitable for fly monitoring as the traps can't be stored after use and the flies quickly decompose, making them difficult to identify.

Step 1: Fly incident details received

Discuss the issue with the reporter to ascertain the history of the problem, likely species, fly numbers, their habits and impact on the residents. If necessary, ask them to submit samples to the investigating officer for identification. Is the incident associated with or close to a permitted site? If there are a number of residents affected or the issue is contentious, you may need to prepare an engagement plan – your local communications team can help with this.

Step 2: Visit and investigate

If the problem is persistent and appears to be related to a site we regulate, or involves several residents or businesses and concerns significant numbers of houseflies, consider visiting all of the premises to collect samples and take photos as evidence. Offer advice on control measures they can use within their properties. Consider contacting the local environmental health department to see if they are aware of problems or can offer any advice.

Step 3: Structured fly monitoring

Ask the reporters to hang adhesive papers in agreed locations in the property (see Section 3) and change them every week until asked to stop. The investigating officer should take a photo of the fly paper in-situ before collecting the papers to identify and count the flies. The sticky papers are then fixed to white paper and a label attached with details of location, dates, flies and numbers, and the officer takes another photo. See guidance on the numbers of flies in a receptor's property that may constitute a problem, but remember there is no absolute nuisance level. If the number of flies caught is going to be used in evidence, the reporters will need to give a statement about whether they have moved or done anything to the papers during the monitoring period.

Step 4: Identify potential fly sources

If the incident concerns significant numbers of houseflies, identify potential fly breeding sites, initially within a 1 km radius of the premises. Contact the LA to discuss any issues they may be investigating in the area.

Step 5: Investigate potential fly sources

Contact the identified sites and ask about any recent fly issues. Visit the sites where the fly breeding may be occurring. Site visits should include:

- Discussion with the operator to understand the systems and processes on their site, such as age of stock on farm, manure storage and removal procedures, ventilation systems, incoming waste streams, waste processing procedures and times, good housekeeping including waste rotation,

cleaning and washing down buildings etc. Establish if there have been any recent incidents (e.g. water leaks, or equipment breakdown), or changes in procedures (e.g. new incoming waste streams) that may have increased the risk of fly infestation.

- Checking the site for the presence of adult flies, fly breeding, and conditions conducive to fly breeding. Take dated photographs of key issues seen.

On farms this investigation is likely to involve examining manure from various locations within livestock sheds for moisture levels, and for the presence of fly larvae (see 3.2). At waste sites this may involve examining waste for fly larvae. Additionally, any adhesive fly papers and electronic fly killers present should be checked for fly numbers and species. Are the fly species present the same as those at the reporters' premises? Is the farmer or operator already monitoring fly numbers? Are fly records available?

- Is the site already using fly control measures? Do they have a fly management plan? What has been identified in their management system? What techniques are used (both non-chemical and chemical), and for how long? Is there a fly control contract? Is the contract or contractor appropriate? Are records of pesticide use available?
- Repeat this process for each potential fly source. Beware of becoming fixated on one potential source at an early stage.
- Discuss with any other operator their role in an engagement plan, and what to tell the community

Step 6 Resolve fly problems

At sites where a clear fly problem has been identified it is likely that the operator has breached their permit. You need to establish the root causes of the fly problem, such as wet manure, poor ventilation, over-flowing drinkers, insufficient use of cover, allowing unprocessed waste to remain on site for extended periods, inadequate composting process, inappropriate pesticide use etc. Provide the operator with relevant advice on good practice for fly management, especially on fly prevention. Ask the operator to write or amend and implement a Fly Management Plan which addresses the root causes to solve the issue and prevents recurrence. Advise the operator clearly of the level of nuisance being experienced in nearby residences.

Step 7. Feedback to residents

Thank people for their assistance and discuss the action taken with the affected residents. Advise them that treatment is likely to take several weeks to be fully effective, and they should continue to monitor until otherwise advised or they are confident the problem has been resolved. Ask them to report future incidents to our pollution hotline.

Step 8. Follow up visits to site

For sites where action was required, revisit the site as soon as possible, preferably within a week to assess the implementation of agreed actions and their effectiveness. If the action taken by the operator is inadequate or ineffective, continue to work to address the problems. Ask yourself the following questions:

- Are there issues that were missed at the initial visit?
- Are there fly breeding areas that were overlooked, for example, lesser housefly larvae can be very difficult to locate?
- Does there appear to be resistance to the insecticide products used?
- Are there other significant fly-breeding sites nearby which have not yet been investigated?

Step 9. Conclusion

Once the problem is resolved, advise all parties of the outcome of the investigation, action taken and proposals to avoid a recurrence. Advise reporters to contact us again if problems recur.

SECTION 6. RAT/VERMIN PEST IDENTIFICATION AND CONTROLS

6.1 Vermin and Birds

The most common vermin that could pose a problem are Rats. Less likely, but still possible would be foxes, though these are deterred by people and dogs being present. Birds may include starlings and pigeons, although these are more easily deterred by people working, active vehicles and the lack of food available. The following Figure 6. provides illustrations and descriptions of these pests.

Figure 6. Illustrations and descriptions of Rats and a Seagull.

	Visual Description	Features
 ***The common rat or Brown rat (Rattus norvegicus).***	Larger than the black rat – 40cm in length but tail shorter than head and body. Blunt nose, small ears.	Brown rats usually prefer ground living and burrowing but they can climb. They are omnivorous and are attracted to food waste.
 ***Black rat (Rattus rattus)***	Black rat (16 – 24cm in length / tail longer than head and body. Much smaller than the brown rat. Pointed nose, large ears and slender body	Quite rare in the UK and usually found at ports. They are omnivorous and are attracted to food waste.
 ***Common Gull (Larus Canus)***	Large bird - ranging in length from 28 to 81 cm (11 to 32 in). Stout, hooked bills and webbed feet.	Omnivores. Natural opportunist scavengers. Take advantage of organic waste at waste sites.

Property owners have a legal obligation under the Prevention of Damage by Pests Act 1949 to keep premises rat and mice free, or, if Brown Rats pose a threat to health or property, to report infestations to the local authority.

6.2 Monitoring for Brown Rats

The Common, Brown or Norway Rat, also known as the sewer rat, and are prevalent across the whole of the UK.

Appearance
The Brown Rat is the larger of the species in the UK, often weighing over half a kilo and measuring about 23cm, without counting the tail. It has a blunt muzzle, small hair-covered ears and a tail that is shorter than its body. Colour varies from brown to black but this species is distinguished from the true Black Rat by its larger size, and its tail being shorter than its body length.

Characteristics
Brown Rats have well-developed senses of smell taste and touch. They have an acute sense of hearing, frequently using ultrasound to communicate, and are particularly sensitive to any sudden noise. Both species breed rapidly and become sexually mature in about three months. Each female may produce from 3 to 12 litters of between six and eight young in a year. Rats need to gnaw to keep their constantly growing incisor teeth worn down. They damage woodwork, plastic, bricks and lead pipes, and will strip insulation from electrical cables.

Diet
Brown Rats feed mostly at night and an average rat will eat 50g of food a day. Preferred foods are cereal products, although rats are omnivorous and will eat almost anything that humans eat.

Figure 7: Brown Rat foraging

Habitat
Brown Rats live in any situation that provides food, water and shelter. In homes, they will live in roof spaces, wall cavities or under floorboards. In gardens, they will burrow into grassy banks or under sheds. Brown Rats are also often found living in sewer systems and can invade a property when the sewers are in a state of disrepair.

Diseases
Brown Rats carry many nasty diseases which they can spread to humans, normally through their urine. including; Leptospirosis or Weil's disease, Salmonella, Listeria, Toxoplasma gondii and Hantavirus.

6.3 Controlling Brown Rats

Sinkfall Recycling put steps in place to prevent any Brown Rat infestation:

Elimination of any harbourage points such as under bins, skips and sealing gaps around walling, pipes and under sheds; rats only need a gap of 15mm to gain entry.

Removal of potential nesting sites by keeping the yard cleared and tidy, and by cutting back overgrown areas and clearing any piles of wood/debris.
Ensuring that drain inspection covers are in a good state of repair.
Covering and containing any household waste where Brown Rats can get access to it,
Closing dustbin lids and covering organic material.
Enclosure of specific waste types
Using steel or alloy containers

SECTION 7. PESTS MANAGEMENT – COMMUNITY RELATIONS

7.1 Engagement with Neighbours

In the event of pests related issues, the operator Sinkfall Recycling will ensure that their complaints procedure is followed and will engage with the public in an appropriate and timely fashion.

Sinkfall Recycling have been very proactive in engaging with their neighbours during the planning and permitting application process to ensure there was clear and robust consultation both with statutory consultees and the public,

Sinkfall Recycling shall regularly keep the public up to date as the project is developed.

Sinkfall Recycling intends to maintain an open and transparent approach and intends to continue engaging with the local community upon commencement of operations.

7.2 Responding to Complaints

The site office telephone number will be made available for the public to use should they wish to register a direct complaint to the operator. Following any complaints received, the operator will endeavour (where possible) to contact the complainant to provide feedback on actions taken to both assess the event and convey any remedial actions taken.

Any external request for information will be acknowledged, recorded and dealt with on an individual basis as the type of information provided will depend on the content and source of the request. All communications will be reviewed during routine management review meetings.

7.3 Documentation of Complaints and Record Keeping

Sinkfall Recycling shall utilise the standard template documents provided by the Environment Agency. This will enable the complainant a better opportunity to explain and describe the nature of the problem and will enable Sinkfall Recycling a clearer understanding on where to look in order to resolve the issue and either make the required rectification or implement revised procedures.

The recording Templates include:

- Pests Complaint Report Form
- Pests Complaint Investigation Form
- Pests Diary

The templates are provided at **Annex 1.**

7.4 Pests Complaints / Incident Review

It is vital to record and act upon complaints received and communicate the outcome of the investigation to the complainant. It is equally vital to undertake a review following complaints or incidents to implement further control measures or change behavioural practices on site to prevent the event from occurring again. The site operator, Sinkfall Recycling, will undertake a formal review of onsite processes following any major incident, and will routinely review any complaints received as and when they occur.
All records of events and actions taken will be retained as required by the Environmental Permit.

7.5 Notifying the Environment Agency

In the event that an accident or incident occurs Sinkfall Recycling will notify the Environment Agency as soon as practically possible, using the emergency 24hr phone line (08708 506506). The TCM for the facility will also notify the Regulatory Officer should any material complaints be received directly to site, and advise what remedial measures or actions have been taken to address the problem. Copies of any material complaints received will be made available to the Environment Agency for review.

SECTION 8. EMERGENCY PLANS

8.1 General

Operators must consider what incidents or emergencies might adversely affect the control of pests in order that they can plan and take appropriate steps to reduce the likelihood of the incident occurring, minimise any impacts if the incident were to occur, and recover control of the process as quickly as possible.

It is not necessary to consider events which are either very unlikely to occur or where pests nuisance would be a minor element of the overall environmental impact. For example, if there were to be a major environmental incident in the area that affected the site and prevented staff from getting to work, then pests nuisance would be a relatively minor aspect of the overall disruption and environmental impact.

However, events that are uncommon but reasonably foreseeable which could affect the running of the site and cause pests nuisance problems should be addressed e.g. deliveries may be affected from time to time or staff (internal and external) may be unavailable for some reason e.g. illness.

8.2 Abnormal Conditions

In the event that meteorological conditions prevent delivery or dispatch vehicles, or staff arriving on site, emergency contingency plans will need to be followed to ensure the site can be remotely managed until the plant can return to operation under normal conditions. The site manager and staff operatives will undertake daily weather checks to ensure that any abnormal weather conditions can be foreseen as much as possible and contingency arrangements can be put in place prior to any problem occurring on site. In the event that the site has to be closed due to severe weather conditions deliveries will be diverted to an alternative suitably authorised site for either recovery or disposal.

8.3 Breakdown of Process Equipment and Plant

Plant or equipment break-down could cause delays in higher risks wastes being treated and moved off site. In the event that there is a breakdown of equipment or plant during out-of-hours operations the standby and duty staff will be alerted to the problem immediately via text message. Telemetry will also be sent to the off-site control centre where the alarm can be raised to ensure the standby duty staff is aware that attendance is required.
Reserve equipment will be kept on site so that any failed parts are quickly replaced and unnecessary delays in ordering parts can be avoided. When a spare part is used, the Site Manager will be made aware and another replacement part ordered to ensure the stock of spare parts is replenished.

8.4 Staffing Issues

The facilities standby staff rota will be actively managed, and in the event of staff illness, the next name will be drawn down from the list, and the standby system will continue. Equally during staff holidays the standby rota will be updated to ensure there is suitable cover continuously.

Staff listed on the standby rota are provided with a list of emergency contact names and numbers.

8.5 Incident (Accident) Plan

In the event of a spillage on site, site operatives and the standby duty officer will be provided with a list of 24hr tanker service companies who would be able to assist at short notice in the event of a liquid spillage or accident on site. Refer to EMS and 'Accident Management Plan'

Likewise, in the event of an emergency local emergency services contact numbers will be displayed in the site office or provided to the standby duty officer.

In the event that the site has to be closed and is given restricted access, staff will be contacted and prevented from travelling to work. Contractors will be contacted to cease deliveries / collections / services to the site and to arrange alternative disposal options for the interim period.

Risk assessments will be undertaken during and after any incident to ensure the site is safe to re-enter.

Appendix 1. Pest Management - Pests report form				Date	
Time of test					
Location of check/ sighting of pest e.g. street name etc					
Weather conditions (dry, rain, fog, snow etc):					
Temperature (very warm, warm, mild, cold, or degrees if known)					
Wind strength (none, light, steady, strong, gusting) Use Beaufort scale if known					
Wind direction (e.g. from NE)					
Intensity (see below)					
Duration (of test)					
Constant or intermittent in this period or persistence					
What does it the pest look like?					
Receptor sensitivity (see below)					
Is the source evident?					
Any other comments or observations					

Sketch a plan of where the sighting was made and the movement of the pest.

Appendix 2. Pest Management - Pests Complaint Report Form

Time and date of complaint:	Name and address of complainant:
Telephone number of complainant:	

Date of pest sighting:		
Time of pest sighting:		
Location of pest sighting, if not at above address:		
Weather conditions (i.e., dry, rain, fog, snow):		
Temperature (very warm, warm, mild, cold or degrees if known):		
Wind strength (none, light, steady, strong, gusting):		
Wind direction (eg from NE):		
Complainant's description of pest sighting: ○ What does it look like?		
○ How many (see below):		
○ How long did it stay Duration (time):		
○ Constant or intermittent in this period:		
○ Does the complainant have any other comments about the pest?		
Are there any other complaints relating to the installation, or to that location? (either previously or relating to the same exposure):		
Any other relevant information:		
Do you accept that pests are likely to be from your activities?		
What was happening on site at the time the pest sighting occurred?		
Operating conditions at time the pest sighting occurred (eg flow rate, pressure at inlet and pressure at outlet):		
Actions taken:		
Form completed by:	Date	Signed

Appendix 3. Pest Management - Pests Diary	Form version 2507024	Sheet No
Name: Telephone Number:	Address:	

Date of pests:						
Time of pests present:						
Location of pest sighting, if not at above address (indoors, outside):						
Weather conditions (dry, rain, fog, snow etc):						
Temperature (very warm, warm, mild, cold or degrees if known):						
Wind strength (none, light, steady, strong, gusting):						
Wind direction (eg from NE):						
What does it look like? Do you consider this offensive?						
How many pests were present.						
How long did it remain						
Was it constant or intermittent in this period:						
What do believe the source/cause to be?						
Any actions taken or other comments:						