

Introduction

This Habitats Assessment relates to the permit variation application for St Thomas' Farm Recycling Facility (EPR/XP3393FX) operated by C Bialek Limited in Salisbury.

There are three designated site of interest that this assessment will review. These are:

- Cockey Down Site of Special Scientific Interest (SSSI) located 536m from the site to the East Southeast.
- River Avon Special Areas of Conservation (SAC) located 151m from the site bending from the Southwest to the Northeast.
- River Avon Site of Special Scientific Interest (SSSI) located 151m from the site bending from the Southwest to the Northeast.

In this document the River Avon SAC and SSSI will be treated as one assessment.

Habitats Assessment for the Cockey Down SSSI

Cockey Down, designated as a Site of Special Scientific Interest (SSSI), is renowned for its diverse chalk downland habitats. The site supports a range of calcareous grassland communities, characterised by species such as sheep's fescue (*Festuca ovina*), common rock-rose (*Helianthemum nummularium*), and an array of native wildflowers. These grasslands provide essential conditions for a rich assemblage of invertebrates, including several notable butterfly species, as well as supporting populations of small mammals and ground-nesting birds.

In addition to the calcareous grassland, Cockey Down contains areas of scrub dominated by hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*), which add structural diversity and offer important nesting and shelter habitats for birds and other wildlife. The mosaic of grassland and scrub is integral to the ecological value of the site, supporting a range of ecological processes and successional stages.

Overall, the habitats at Cockey Down SSSI are of high conservation value, both for their species richness and for their role in maintaining regional biodiversity. Ongoing management is essential to prevent scrub encroachment and maintain the open grassland structure, ensuring the long-term preservation of this important habitat.

The assessment of the potential impacts are contained in Table 1.

Habitats Assessment for the River Avon SAC and SSSI

The River Avon, designated both as a Special Area of Conservation (SAC) and a Site of Special Scientific Interest (SSSI), is recognised for its exceptional aquatic and riparian habitats. The site encompasses a dynamic river system that supports a variety of priority habitats, including clean, fast-flowing waters, marginal wetland vegetation, and floodplain grasslands. These habitats are critical for numerous protected and notable species, such as Atlantic salmon (*Salmo salar*), otter (*Lutra lutra*), and a wealth of aquatic invertebrates and plants. The ecological integrity of the River Avon SAC and SSSI depends on the maintenance of water quality, hydrological processes, and the preservation of habitat connectivity along its course.

The citation for inclusion as a SSSI and SAC is as follows

The Avon is richer and more varied than in most chalk streams with over 180 species of aquatic plant having been recorded, one of the most diverse fish faunas in Britain and a wide range of aquatic invertebrates. It rises in the Pewsey Vale as a network of clay streams fed by chalk springs. These converge to a chalk river running through Salisbury Plain. At Salisbury this is joined by the main Wiltshire tributaries and develops into a large calcareous river flowing over more acid sands and clay as it passes the New Forest and the Dorset Heaths. The site includes the Dockens Water, a largely unmodified acid stream draining New Forest heathlands.

The Wiltshire tributaries, of interest in their own right and with contrasting geologies, are included primarily on account of their importance, with the Avon itself, for internationally rare or threatened species (*Ranunculus*

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vegetation, sea lamprey, brook lamprey, bullhead, Atlantic salmon and Desmoulin's whorl snail). The Bourne section is a pure chalk stream, the Wylfe rises in clay and develops into a chalk stream and the Nadder is influenced by greensand but again primarily calcareous in character.

In the upper reaches of the system the rivers support outstanding chalk stream fisheries. The surrounding land is mainly grazed or arable. From Salisbury to Ringwood the floodplain is much broader and the river becomes braided where old water meadow channels exist. The floodplain is largely given over to grazing. The upper reaches of the rivers are largely fed from chalk springs and in the Avon itself flows are relatively constant. The water quality of the Avon and northern tributaries are affected by high levels of phosphates and nitrates. These appear to adversely affect the flora, especially downstream of sewage discharges.

Flora

The plant communities in the Avon and the three northern tributaries are characteristic of a calcareous river with a clay influence. The water crowfoot *Ranunculus penicillatus* var. *pseudofluitans* is dominant through most of the river. Other water crowfoot species are present, reflecting different conditions. In the upper reaches *R. peltatus* occurs, in the middle reaches *R. fluitans* and in the lower, more sluggish, river *R. circinatus*. The Dockens Water supports *R. flammula* and *R. omiophyllus* which are characteristic more of bogs than rivers.

Two other groups of aquatic plants are characteristic of the different geological influences. The starworts *Calitriche obtusangula* and *C. platycarpa* grow with water crowfoot in clumps on the river beds. *C. stagnalis* is more frequent in the chalk tributaries and *C. hamulata* in the Dockens Water. Pondweeds reflect the more enriched nature of the Avon itself with *Potamogeton pectinatus* and *P. perfoliatus* in the upper reaches, and *P. lucens*, *P. silicifolius* (a hybrid between the last two species) and *P. berchtoldii* in the lower section. In the more acid Dockens Water bog pondweed *P. polygonifolius* and broadleaved pondweed *P. natans* are found. The influence of the more acid sands is also illustrated by the occurrence of common spike-rush *Eleocharis palustris* and hemlock waterdropwort *Oenanthe crocata*.

Other species of the channel flora in the Avon include spiked water-milfoil *Myriophyllum spicatum*, arrowhead *Sagittaria sagittifolia*, lesser water-parsnip *Berula erecta* and fool's watercress *Apium nodiflorum*. Flowering rush *Butomus umbellatus* occurs in both its submergent and emergent forms, perhaps its fullest expression in a British river. The nationally scarce river water dropwort *Oenanthe fluviatilis* is found in the Avon and the Wylfe, and the locally important hemlock water dropwort *Oenanthe crocata* also occurs in the system, although more characteristically at the river edge.

Adjacent and associated habitats comprise swamp, wet woodland and flood pasture habitats that are now rare both locally and nationally, although they would once have dominated the floodplains of the upper Avon. The swamp communities are dominated by sweet grass *Glyceria maxima*, common reed *Phragmites australis* or lesser pond sedge *Carex acutiformis*. These are especially important habitats for invertebrates and birds.

The wet woodlands are dominated by alder *Alnus glutinosa*. Their ground flora is governed by the water levels, with nettles *Urtica dioica* on dryer ground and greater tussock sedge *Carex paniculata* in wetter areas. There are small stands of mixed alder-ash *Fraxinus excelsior* woodland, whose ground flora is characterised by creeping jenny *Lysimachia nemorum*.

The site includes small fragments of agriculturally unimproved flood pasture. These are dominated by three rare grassland types: meadow foxtail-great burnet *Alopecurus pratensis* *Sanguisorba officinalis*, crested dog's tail-black knapweed *Cynosurus cristatus*-*Centaurea nigra* and crested dog's tail-marsh marigold *C. cristatus*-*Caltha palustris*.

These flower rich grasslands are relics of traditional grazing systems once common throughout Wiltshire's river valleys. Their swards are more productive without fertilisers than many other grassland types, however they are inferior by modern agricultural standards and most have been lost to drainage and fertilisation.

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Invertebrates

The invertebrate fauna of the Avon is extremely rich and contains most of the species associated with a large river running through calcareous areas. In the upper stretches, over clay, there is a reasonable range of mayfly species and a variety of gastropods. The middle reaches have the most diverse fauna, again especially mayflies and mollusca, including the very localised *Baetis atrebatinus*. Tall fen habitats are notable for the presence of the internationally important Desmoulin's Whorl Snail. From the lower river two species of aquatic mollusc have been recorded: *Valvata macrostoma* (vulnerable status) and the pea mussel *Pisidium tenuilineatum* (rare status), both inhabitants of slow flowing waters

Birds

The river system and its adjacent vegetation provide a variety of habitats for breeding, wintering and migrating birds. The lower Avon supports a good breeding populations of kingfisher *Alcedo atthis*, reed warbler *Acrocephalus scirpaceus* and sedge warbler *Acrocephalus schoenobaenus*. It is also important as a feeding site for passage birds, in particular common sandpiper *Tringa hypoleucos*, green sandpiper *Tringa ochropus* and garganey *Anas querquedula*. Several pairs of the rare Cetti's warbler *Cettia cetti* are associated with the riverine habitats.

Around Salisbury and in the upper reaches of the system birds breeding on the river include little grebe *Tachybaptus ruficollis*, kingfisher and mute swan. Fringing vegetation is used by reed bunting *Emberiza schoeniclus*, yellow wagtail *Motacilla flava*, sedge and reed warblers.

Fish

The system has an extremely diverse fish fauna with more species recorded in the Avon than in any other British river. The renowned salmonid fisheries, with wild populations of migratory sea trout *Salmo trutta*, brown trout and Atlantic salmon *Salmo salar*. A wide range of coarse fish are present, including bullhead *Cottus gobio*, minnow *Phoxinus phoxinus*, 3-spined stickleback *Gasterosteus aculeatus*, dace *Leuciscus leuciscus*, stone loach *Noemacheilus barbatulus*, pike *Esox lucius*, grayling *Thymallus thymallus*, eel *Anguilla anguilla*, perch *Perca fluviatilis*, roach *Rutilus rutilus*, gudgeon *Gobio gobio*, bleak *Alburnus alburnus*. The system is notable for sea Petromyzon *marinus* and brook lamprey *Lampetra fluviatilis*, the latter having particularly important spawning areas in the upper reaches.

Mammals

The system as a whole is well used by water voles *Arvicola terrestris* and water shrews *Neomys fodiens*, with occasional recent evidence of otter *Lutra lutra*

In considering the impacts of the waste site, each heading will be considered encompassing the species above:

- Flora
- Invertebrates
- Birds
- Fish
- Mammals

The assessment of the potential impacts are contained in Table 2.

Table 1

Activity/Source	Pathway	Receptor	Likelihood	Consequence	Justification/Controls	Risk
Releases of particulate matter (dusts) and micro-organisms during operations, including unloading, loading, treatment and sorting.	Air transport	Pyramidal orchid, grassland, Lowland calcareous grassland.	Low	High	Predominant wind direction is SSW to NW away from the SSSI. The site operates a Dust and Emission Management Plan to prevent the movement of windblown dust. Operations are undertaken within buildings where possible. Site 536m from SSSI, therefore dispersion will be maximised	Very Low
Releases of particulate matter (dusts) and micro-organisms during operations, including unloading, loading, treatment and sorting.	Air transport	Yellowhammer, Willow warbler, Skylark, Meadow pipit, Buzzard, Kestrel.	Low	High	Predominant wind direction is SSW to NW away from the SSSI. The site operates a Dust and Emission Management Plan to prevent the movement of windblown dust. Operations are undertaken within buildings where possible. Site 536m from SSSI, therefore dispersion will be maximised	Very Low
Releases of particulate matter (dusts) and micro-organisms during operations, including unloading, loading, treatment and sorting.	Air transport	Chalkhill blue, Marbled white, Dark green fritillary,.	Low	High	Predominant wind direction is SSW to NW away from the SSSI. The site operates a Dust and Emission Management Plan to prevent the movement of windblown dust. Operations are undertaken within buildings where possible. Site 536m from SSSI, therefore dispersion will be maximised	Very Low
Litter from outside stockpiles. Loss of amenity, unsightly on view.	Air transport	Pyramidal orchid, grassland, Lowland calcareous grassland.	Low	Medium	Predominant wind direction is SSW to NW away from the SSSI. Wind strength important factor in deposition. Operations are undertaken within buildings where possible. Daily management inspection to consider operations in high winds.	Very Low
Litter from outside stockpiles. Loss of amenity, unsightly on view. Danger to birds digesting litter.	Air transport	Yellowhammer, Willow warbler, Skylark, Meadow pipit, Buzzard, Kestrel.	Low	High	Predominant wind direction is SSW to NW away from the SSSI. Wind strength important factor in deposition. Operations are undertaken within buildings where possible. Daily management inspection to consider operations in high winds.	Low

Activity/Source	Pathway	Receptor	Likelihood	Consequence	Justification/Controls	Risk
Litter from outside stockpiles. Loss of amenity, unsightly on view. Danger to butterflies impacting windblown litter.	Air transport	Chalkhill blue, Marbled white, Dark green fritillary,.	Low	Medium	Predominant wind direction is SSW to NW away from the SSSI. Wind strength important factor in deposition. Operations are undertaken within buildings where possible. Daily management inspection to consider operations in high winds.	Very Low
Vermin attracted by waste.	Land transfer	Yellowhammer, Willow warbler, Skylark, Meadow pipit, Kestrel, Buzzard,	Low	High	Skylark and Meadow pipit are ground nesting birds. Vermin control organised by operator. SSSI too distant from site for vermin to travel from food source.	Very Low
Flooding of site and associated contamination of floodwater.	Flood waters	All receptors	Low	Medium	SSSI elevation is 30m above River Bourne	Very Low
Fire risk from stockpiles, arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Pyramidal orchid, grassland, Lowland calcareous grassland.	Low	High	Predominant wind direction is SSW to NW away from the SSSI. Fire Prevention Plan in operation. SSSI elevation is 30m above River Bourne	Very Low
Fire risk from stockpiles, arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Yellowhammer, Willow warbler, Skylark, Meadow pipit, Kestrel, Buzzard,	Low	Medium	Predominant wind direction is SSW to NW away from the SSSI. Fire Prevention Plan in operation. SSSI elevation is 30m above River Bourne	Very Low

Activity/Source	Pathway	Receptor	Likelihood	Consequence	Justification/Controls	Risk
Fire risk from stockpiles, arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.		Chalkhill blue, Marbled white, Dark green fritillary,.	Low	Medium	Predominant wind direction is SSW to NW away from the SSSI. Fire Prevention Plan in operation. SSSI elevation is 30m above River Bourne	Very Low
Spillage of liquids, contaminated rainwater run-off from waste e.g. containing suspended solids.		All receptors	Low	High	Impermeable pavement and sealed drainage. Site operations are more than 10 metres from a watercourse and are not within a Source Protection Zone. Site runoff goes into sealed tanks. Emergency Plan contains flood risk. Daily management inspections. SSSI elevation is 30m above River Bourne	Very Low

Table 2

Activity/Source	Pathway	Receptor	Likelihood	Consequence	Justification/Controls	Risk
Releases of particulate matter (dusts) and micro-organisms during operations, including unloading, loading, treatment and sorting.	Air transport	Flora, invertebrates, birds, mammals.	Low	High	Predominant wind direction is SSW to NW away from the SSSI. The site operates a Dust and Emission Management Plan to prevent the movement of windblown dust. Operations are undertaken within buildings where possible. Site 151m from SSSI, therefore dispersion will assist in reducing deposition	Low
Releases of particulate matter (dusts) and micro-organisms during operations, including unloading, loading, treatment and sorting.	Air transport	Fish	Low	High	Predominant wind direction is SSW to NW away from the SSSI. The site operates a Dust and Emission Management Plan to prevent the movement of windblown dust. Operations are undertaken within buildings where possible. Site 151m from SSSI, therefore dispersion will assist in reducing deposition. River flow will disperse small quantities of dust.	Very Low
Litter from outside stockpiles. Loss of amenity, unsightly on view.	Air transport	Flora	Low	Medium	Predominant wind direction is SSW to NW away from the SSSI. Wind strength important factor in deposition. Operations are undertaken within buildings where possible. Daily management inspection to consider operations in high winds.	Very Low
Litter from outside stockpiles. Loss of amenity, unsightly on view. Danger to birds & fish digesting litter. Ruining habitat for invertebrates.	Air transport	Fish, invertebrates, birds, mammals.	Low	High	Predominant wind direction is SSW to NW away from the SSSI. Wind strength important factor in deposition. Operations are undertaken within buildings where possible. Daily management inspection to consider operations in high winds.	Low

Vermin attracted by waste.	Land transfer	Fish, invertebrates, birds, mammals.	Low	High	Ground nesting birds and mammals such as the Water Vole are in danger. Vermin control organised by operator. SSSI too distant from site for vermin to travel from food source. Usual travel distance no more than 80m.	Very Low
Flooding of site and associated contamination of floodwater.	Flood waters	All receptors	Low	High	Site is not on the flood plain. Hazardous wastes are contained within containers.	Low
Fire risk from stockpiles, arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	All receptors	Low	High	Predominant wind direction is SSW to NW away from the SSSI. Fire Prevention Plan in operation. Impermeable pavement and sealed drainage on site.	Low
Fire risk from stockpiles, arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.		All receptors	Low	Medium	Predominant wind direction is SSW to NW away from the SSSI. Fire Prevention Plan in operation. Impermeable pavement and sealed drainage on site.	Very Low
Spillage of liquids, contaminated rainwater run-off from waste e.g. containing suspended solids.		All receptors	Low	High	Impermeable pavement and sealed drainage. Site operations are more than 10 metres from a watercourse and are not within a Source Protection Zone. Site runoff goes into sealed tanks. Emergency Plan contains flood risk. Daily management inspections.	Very Low