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LAMPLIGHTERS MARSH SNCI MANAGEMENT PLAN MARCH 2008

For

BRISTOL CITY COUNCIL

ENVIRONMENTAL AND LANDSCAPE MANAGEMENT PLAN LAMPLIGHTERS MARSH, 2008

This management plan was produced in 2008. It lays out principles of management for a fifteen year period, with prescriptions covering a five year period up until 2013, after which the plan will be renewed and thereafter very five years until the end of the management period. Management of the site has been guided by an earlier plan produced in 2002.

1 INTRODUCTION

- 1.1 Site name: Lamplighters Marsh
- 1.2 Location: Central Grid Reference: ST 524 767. See Map 1.
- 1.3 Local Planning Authority: Bristol City Council (BCC).
- 1.4 District: Avonmouth ward.
- 1.5 Conservation Status: The greater part of the site is designated as a Site of Nature Conservation Interest (SNCI). Most of the site is owned by BCC and is a Public Open Space. The site lies immediately adjacent to the River Avon part of the Severn Estuary Site of Special Scientific Interest (SSSI), Special Protection Area (SPA) and proposed Special Area of Conservation (SAC).
- **1.6** Area: 9.7 hectares / 24 acres (including 4.86 hectares / 12 acres which are currently privately owned).
- 1.7 Nature of Legal Interest: BCC owns approximately half of the land (approximately 4.8 hectares / 12 acres) the remainder is privately owned shown as area B on map 1.
- 1.8 Scope of the Plan: This management plan covers the BCC owned land outside the Park and Ride site as shown on Map 2. BCC would, if realistic opportunity arises in the future, consider incorporating the currently privately owned land into the Management Plan (Area B).

2 ACCESS

2.1 Access Policy: There is unrestricted public access across the BCC owned land south-west of the railway, with the exception of the horse paddock (area 2 on Map 1). The pursuit of suitable recreational activities is both allowed and encouraged. Access has been encouraged through the provision of welcoming access points to the site and a fully accessible public footpath (number 54). There is no public access to the privately owned land.

There is access across most of the land north-east of the railway for the same purpose, with several access points from both Station Road and The Portway.

2.2 Vehicular Access

Wessex Water have a right of access along a track to their compound.

There is vehicular access for management purposes to the former landfill site (areas 7 and 8 on Map 2) from Station Road and The Portway. Vehicular access for management purposes to the south-western part of the site is possible via the track off Station Road, past the Wessex Water compound, and from West Town Road, under the motorway bridge.

3 SITE DESCRIPTION

3.1 History: The original use of this low-lying land by the river would have been as grazing marsh and this use continued well after the construction of the railway. Grazing by farm stock was finally abandoned at least 30 years ago and the land south-west of the railway line then received no management until 2003 apart from pony grazing in the small paddock. A photograph shows this low-lying grazing marsh in the 1920s.

During the mid-twentieth century this area was tipped on, presumably to facilitate its commercial use. The northern part of the site was occupied by railway sidings and associated structures but these were abandoned in the 1970s and few traces now remain. Some concrete standing in this area probably dates from its use as a contractors' compound during the construction of the M5 Avonmouth bridge during the 1970s. A smaller area (area F on the attached map) was used as a compound by Costains during repair works to the motorway bridge during the 1990s. The northern part of the site was largely unmanaged until 2003, when a programme of active conservation management commenced.

Part of the area to the north-east of the railway was used as a non-licensed landfill site prior to the introduction of the Control of Pollution Act 1974. It closed before 1976. When the landfill was completed the slopes were planted with trees and the flat areas were sown with grass and are managed as short amenity turf.

BCC received planning permission in February 2001 to build a Park and Ride site and associated highway works on part of the site (at the junction with the Portway and West Town Road). The report of the planning inquiry that led to this permission stated that efforts should be made to protect and enhance the remainder of the site. This principle is also referred to in the 1997 Bristol Local Plan. The 2002 ecological and landscape management plan was prepared for land in the Council's ownership adjacent to the Park and Ride Site, which is shown on Map 2, as a result of these recommendations, in consultation with local community groups and other interested bodies.

During 2007 a planning application was submitted by Bristol City Council for an extension to the Park and Ride site across an area of pony paddocks and old allotments, formerly included within the management plan for this site. It was acknowledged that this would result in some adverse ecological impact,

and as a consequence a planning condition was agreed that management of the SNCI would be funded for twenty five years. This management plan has been produced as part of the process of meeting this commitment.

3.2 Physical: The site occupies low lying flood plain land just above the high water level adjacent to the River Avon. The natural soils are slightly calcareous flood plain deposits but these have been largely obscured by tipped materials, which include areas of limestone ballast and, more locally, furnace clinker.

The site is bisected by a railway line built on an embankment and to the northeast of the line some of the land has been land-filled, raising its level and creating some steep slopes which have been planted with trees. There was a marsh occupying much of the privately owned land but, although common reed is still present, this is apparently continuing to dry up as it has done over the last 20 years.

The site abuts the River Avon on its south-western boundary. The River Avon at this point forms part of the Severn Estuary SSSI, SPA, Ramsar site and SAC. The northern boundary of the site is marked by the M5 Avonmouth bridge. The north-eastern boundary is formed by the A4 Portway road with the residential area of Shirehampton beyond. The southern boundary abuts housing.

To the south-west of the railway the land was previously unmanaged apart from grazing in the pony paddock. Since 2003 it has been managed to enhance its nature conservation and amenity value. To the north-east of the railway the land is managed as close mown public open space. The tree planting areas are unmanaged.

3.3 Biological

The site supports a mixture of habitats which are described individually below. The letters and numbers refer to areas shown on Map 1: numbers denote grassland areas and letters woodland, scrub and the former Costains compound.

3.3.1 Vegetation

South-west of Railway - Grassland

1: The tarmac track is old and a wide range of herbs is growing from the edges. They include plants of grassland, tall herb vegetation, maritime species and species of dry open habitats. Species include wild carrot (Daucus carota), wild verbena (Verbena officinalis), moth mullein (Verbascum blattaria), sea beet (Beta vulgaris ssp. maritima) and fern grass (Catapodium rigidum).

On the south-western side is a band of tall herbs and scrub including goosegrass (Galium aparine), stinging nettle (Urtica dioica), common mallow

(Malva sylvestris) and false oat grass (Arrhenatherum elatius) with bramble (Rubus fruticosus agg.), elder (Sambucus nigra), hawthorn (Crataegus monogyna) and dog rose (Rosa canina agg.).

2: This area is managed as a pony paddock. The sward is dominated by a range of grasses including false oat grass, yorkshire fog (Holcus lanatus), cock's foot (Dactylis glomerata), creeping bent (Agrostis stolonifera) and rough-stalked meadow-grass (Poa trivialis). There is a wide variety of herbs including some typical of semi-improved grasslands, some of damp grasslands, some garden escapes and some grassland weeds. Species present include meadow buttercup (Ranunculus acris), meadow vetchling (Lathyrus pratensis), common fleabane (Pulicaria dysenterica), creeping cinquefoil (Potentilla reptans), teasel (Dipsacus fullonum), spotted medick (Medicago arabica) and great hairy willowherb (Epilobium hirsutum).

There is scattered scrub in and around the paddock, including hawthorn, blackthorn (*Prunus spinosa*), elder, goat willow (*Salix x reichardtii*), snowberry (*Symphoricarpos rivularis*) and bramble.

- 3: At this point there is a patch of open grassland amongst dense scrub. False oat grass is dominant with other grasses including tufted hairgrass (Deschampsia caespitosa). Herbs include grass vetchling (Lathyrus nissolia), lesser trefoil (Trifolium dubium), black medick (Medicago lupulina), common fleabane, yarrow (Achillea millefolium) and black knapweed (Centaurea nigra).
- 4: This area comprises the habitats along the fully accessible footpath through the site. It cuts through dense scrub (see area C), and includes small areas of long-established grassland and tall herb vegetation and strips alongside the path that were cleared of scrub as the path was built. A wide range of herbaceous plant species is present, including wild carrot, wild verbena, spiked sedge, glaucous sedge (Carex flacca), viper's bugloss (Echium vulgare), moth mullein and narrow-leaved everlasting pea (Lathyrus sylvestris).
- 4a: This is the largest area of long-established grassland, which has a flora including lesser trefoil, common fleabane, hard rush (*Juncus inflexus*), wild carrot, black knapweed, bird's foot trefoil (*Lotus comiculatus*), common cat's ear (*Hypochaeris radicata*) and grass vetchling. There is a large patch of wood small-reed (*Calamagrostis epigejos*) here.
- 5: This is an open area on stony made ground immediately north of the boatyard. The sward is very low and sparse and includes red fescue (Festuca rubra), blue fleabane (Erigeron acer), buck's-horn plantain (Plantago coronopus) and hoary ragwort (Senecio erucifolius).

The western edge of the area has a taller sward, which is dominated by sea couch (*Elytrigia atherica*), with smaller quantities of distant sedge (*Carex distans*), strawberry clover (*Trifolium fragiferum*), hemlock water dropwort (*Oenanthe crocata*) and glaucous sedge.

At the northern end of the area bramble and dog rose are locally frequent, with large quantities of narrow-leaved everlasting pea.

6: This is the open area at the northern end of the site, which has been greatly extended by a programme of scrub clearance. Large areas of bramble and buddleia have been removed, although bramble re-growth continues. Areas of hard-standing have been broken up to create further patches of open habitat.

The area is largely dominated by tall herbs, especially hoary mustard (Hirschfeldia incana), mignonette (Reseda lutea), viper's bugloss, hemp agrimony (Eupatorium cannabinum) and creeping thistle (Cirsium arvense). There are also patches of shorter, sparse grassland, particularly where hard standing has been broken up and where scrub encroachment was previously kept at bay by motorbike scrambling. Species present here include biting stonecrop (Sedum acre), common stork's-bill (Erodium cicutarium), little mouse-ear (Cerastium semidecandrum) and annual pearlwort (Sagina apetala).

F: This is the former Costains compound. Since Costains vacated the site areas of hard-standing have been broken up and limestone ballast has been allowed to re-vegetate naturally. There is some buddleia scrub alongside the railway, but much of the area has bare ballast with scattered herb species. These include viper's bugloss, spring whitlow grass (*Erophila verna*), perforate St John's wort (*Hypericum perforatum*) and biting stonecrop.

South-west of Railway - Scrub and Woodland

- A: This area is dense, tall scrub dominated by hawthorn with apple (*Malus domestica*), elder, bramble and old man's beard (*Clematis vitalba*). There is an old drainage channel but it is dry and completely shaded by scrub. The scrub is shorter with more bramble plus buddleia adjacent to the river.
- B: This area is also dense scrub. It is privately owned and could only be surveyed from the track edge using binoculars. It is dominated by hawthorn with bramble. Additional shrubs and young trees include apple, goat willow, old man's beard, dog rose, grey sallow (Salix cinerea) and rowan (Sorbus aucuparia). Tall herbs growing amongst the scrub include hemp agrimony, hogweed, hedge woundwort, hedge bindweed (Calystegia sepium) and wood sage (Teucrium scorodonia).

Bi: This is the area which formerly supported a marsh. Stands of common reed could still be seen but access could not be gained for this survey.

Bii: This area includes a young sycamore (Acer pseudoplatanus) and a young ash (Fraxinus excelsior) tree. Behind the trees a large stand of Japanese knotweed (Fallopia japonica) is present.

Biii: The northern end of B has thinner scrub with patches of grassland in between similar to that found in area C.

C: This area is dense bramble scrub with scattered plants of common reed and occasional hawthorn bushes.

North-east of Railway - Grasslands

- 7: This is an area of long grassland on made ground. It is dominated by grasses including false oat grass, rough-stalked meadow-grass, and perennial ryegrass (Lolium perenne). There are very few herbs but hoary cress (Cardaria draba), creeping buttercup (Ranunculus repens), dandelion (Taraxacum vulgare agg.) and white clover (Trifolium repens) are present. The edge by the railway is dominated by tall herbs and low scrub and includes stinging nettle, bramble, white dead nettle (Lamium album) and comfrey (Symphytum sp.). Thirteen fruit trees have been planted in the south-western corner, and are growing well.
- 7a: This is a dry grassy bank sloping up to the road. Additional species here include upright brome (*Bromopsis erecta*), bird's foot trefoil, ox-eye daisy and meadow vetchling.
- 8: This is the flat top of the landfill site. This grassland is dominated by grasses with few herbs much as 7. One patch of bird's foot trefoil and one patch of spiked sedge are present and spotted medick is locally frequent. The road boundary has been planted with a hedge, which incorporates semi-mature trees.
- 9: This path leads below the wooded slopes of the landfill site by the railway and consists of grassland with a tall herb edge giving way to scrub by the railway. Herbs are more frequent here than in adjacent grassland areas at 7 and 8 and include yarrow, common fleabane, tansy (*Tanacetum vulgare*), spiked sedge, tufted vetch, and spotted medick. There is a large amount of Japanese knotweed by the railway within a band of scrub consisting of dead English elm (*Ulmus procera*) saplings, elder, goat willow, bramble and garden privet (*Ligustrum ovale*).

North-east of Railway - Scrub and Woodland

D: The steep slopes of the landfill site are clothed in planted woodland. The trees and shrubs are mostly semi-mature. Crack willow is most frequent with a wide range of native and non-native species including silver birch (Betula pendula), rowan, sycamore, white willow (Salix alba), elder, grey poplar (Populus x canescens) and dogwood (Comus sanguinea). The ground flora under the trees is dominated by ivy (Hedera helix), with smaller quantities of hybrid bluebell (Hycanithoides hispanicus x non-scriptus) and enchanter's nightshade (Circaea lutetiana), with small patches of common reed.

3.3.2 Fauna

3.4 Public Use

The site lies adjacent to a residential area and therefore provides a large number of people with the opportunity for informal recreation and enjoyment of wildlife. The site also affords views of the River Avon section of the Severn Estuary SSSI, SPA and proposed SAC.

Although it is close to an industrial area and lies below the M5 motorway bridge the site is well-used by the public and parts have the atmosphere of open countryside. Access provision to the site has been substantially enhanced by the provision of a surfaced footpath, which was partly grant funded by a Bristol City access grant and capital funding. The formal entrances to the site were included as part of the previous management plan. The path is part of the Severn Trail — Bristol link. There has been a series of public walks and seed-scattering events, and the site has been used a field venue during a national biodiversity conference.

Public use of the flat top and lower flat part of the landfill site (areas 7 and 8) is also high, with an informal circular route around the area being well used by dog walkers and other pedestrians.

The site has formerly been used, without permission, by motorbike scramblers which caused problems for walkers and local residents. Although this use seems to be declining it continues and, during the 2006/2007 winter, resulted in a fatality. Other problems on the site include rubbish-tipping and graffiti, and any site infrastructure is likely to be at risk from vandalism.

The site is an important recreational resource for local people. It has the potential to be better known and to be visited by people from a wider area.

3.5 Landscape

The site is not covered by any landscape designations. Its natural vegetation and the planted landfill slopes do contribute to the rural character of this part of the Avon Valley. The site, or part of it, is visible from several viewpoints including Pill, the railway, the motorway bridge, the housing along the Portway and parts of the Portishead cyclepath.

Parts of the site afford attractive broad views across the river to Pill and other parts have a more intimate closed-in character. The viewpoints along the main path are evidently appreciated as they have been kept free of scrub by regular use.

3.6 Trends

The most significant trend in nature conservation terms continues to be the drying out of the marsh, which was first noted in the early 1980's by the late IF Gravestock, a local botanist. It seems likely to be due to the land-raising north of the railway which destroyed a water source shown on the OS map but the cause is not known for certain. Wetland habitats here have almost disappeared, although small patches of common reed remain, and Japanese knotweed has spread across a large area. Reed warbler and sedge warbler probably no longer occur here. It should be noted that this area is privately owned and that Bristol City Council at present have no influence over its management.

Previously, open habitats such as damp and dry grasslands had been progressively lost due to widespread invasion by scrub. This trend has been reversed, however, by conservation works and open habitats are now more extensive in the south-western part of the site than they were in the 1980s. This has led to an increase in the populations of notable species such as moth mullein and viper's bugloss, which were very small by 2002, the return of species that had disappeared from the site, such as small mouse-ear, and the appearance of previously unrecorded species such as hawkweed oxtongue. This has enhanced the site's nature conservation value significantly.

One consequence of the management works described in the following section is that previously important desire paths are no longer used, especially along the edge of the former Costain's compound (between areas 6 and F on map 1), which has led to scrub encroachment across previously important areas of grassland here.

There has been an increase in the rabbit population on the site in the last two years. Although the rabbits will be of some use in preventing scrub encroachment, they have grazed herbaceous growth heavily and caused a decline in flower abundance in 2006. This impact is likely to be variable as rabbit populations fluctuate.

3.7 Existing Management

When the previous management plan was written, much of the site was unmanaged, although the pony paddock was grazed. Since then considerable resources have been devoted by Bristol City Council to management of the site. The main impact has been at area 6, where large areas of scrub have been removed. Much of this work has been carried out using a machine that pulls out the roots of bramble, as well as cutting back growth. Bramble vigour has been much reduced and the re-growth is low and patchy, but it remains and repeat management has been necessary. Scrub was also cleared back along the path through the site and, on a smaller scale, around areas 3 and 5.

Area 6 has also been enhanced by the breaking up of hard-standing in the former Costain's compound and in smaller areas elsewhere. Natural regeneration has been allowed and they now support a rich flora, but buddleia invasion is a problem in places.

During February 2008 a patch of scrub between areas 6 and F was cleared and buddleias on area F were felled as part of enhancement works carried out in connection with the translocation of slow worms from the park and ride site extension.

Fruit trees have been planted in the south-western corner of area 7 and a hedge has been planted along the Portway boundary of areas 7 and 8. This is low at present, but the plants are established and in time it will provide a welcome screen along this boundary of the site.

Japanese knotweed has been successfully controlled across much of the site in an ongoing programme, but vigorous growth remains along the lower edge of area D, and in the privately owned part of the site.

The amenity value of the site has also been enhanced. New park style railings have replaced the unsightly fencing that previously separated the landfill site from The Portway. A bench has been constructed in area 8, allowing views across the River Avon. Entrances to both parts of the site have been formalised, producing much more welcoming access to the site. The path through the south-western part of the site has been surfaced.

By and large management has been successful in meeting the objectives of the previous management plan: areas of sparse grassland and tall herb vegetation have been extended; long-established grassland has been maintained; populations of Avon Notable plant species and invertebrates have been increased; slow worms are locally plentiful on the site; the scrub continues of be of value for birds and for badgers; the site's appearance has been enhanced; access provision has been improved; and landscape improvements have been carried out. The only significant failure has been to secure appropriate management of the privately owned land.

4 SITE OBJECTIVES

4.1 Aims:

To maximise the nature conservation and landscape value of the site; To encourage appropriate public enjoyment of the site.

4.2 Objectives:

- 1 To maintain the area of sparse grassland and tall herb habitats.
- 2 To maintain and where possible increase populations of Avon Notable Species.
- 3 To enhance grassland areas by appropriate management.
- 4 To maintain the invertebrate interest of grassland and tall herb habitats.
- 5 To maintain slow worm habitat on the site.
- To maintain and enhance the value of scrub and planted woodland for breeding birds and insects.
- 7 To protect the badger social group.
- 8 To maintain and enhance the site's landscape character.
- 9 To maintain and improve appropriate public access and enjoyment.
- 10 To involve the local community in the management of the site.
- 11 To maintain the site in a safe condition.
- 12 To monitor the success of this plan.
- 13 To secure long term management of the site.
- 14 If a realistic opportunity arises within the life of this management plan, to consider the potential for restoring and enhancing the marsh which lies within the privately owned land. This is not a current commitment as at present the opportunity is not available.
- To investigate the potential for Local Nature Reserve declaration in line with condition 15 of the 2008 planning consent and as laid out in the LNR strategy and to implement as appropriate and feasible.

5 MANAGEMENT OPERATIONS

5.1 Rationale

Objective 1: To maintain the area of sparse grassland and tall herb habitats.

Grassland requires some form of management in order to prevent colonisation by scrub and in the absence of such management large areas of these habitats were lost. In the last five years an intensive management programme has restored large areas of these habitats. It is considered that the balance of scrubby to open habitat, approximately 30:70 south-west of the railway and 15:85 to the north-east, that now exists on the Bristol City Council owned part of the site is correct. Management should now prioritise maintaining this balance, except in small areas where there has been recent scrub encroachment and for small scale extension of area 3.

The objective in the previous management plan of restoring a large area of grassland in area 6 and linking this to extended patches in areas 3, 4 and 5 has been largely met through programmes of scrub clearance and breaking up hard standing. This has created larger and more diverse populations of

both plants and invertebrates, including uncommon species of both, and seed-bearing plants have provided habitat for birds. In recent years scrub has encroached across some small areas, notably along the edge of the former Costain's compound (between areas 6 and F on map 1), where former desire paths are no longer used. This area was cleared as part of the February 2008 works. It is likely that repeat clearance here will be required In areas 2, 3, 5 and 6 and along the path through area4 continued control of scrub, in particular bramble and buddleia, is required. Management should continue to remove the roots of bramble, since this has been successful in reducing vigour. An area cleared at the southern end of area 4, to the east of the path, did not produce species-rich vegetation and continued clearance of this area is not justifiable.

The rabbit population on the site has grown in recent years. Rabbit grazing can be beneficial in maintaining areas of short grassland and can prevent scrub encroachment, although it will not have an impact on existing scrub. In 2006, however, the level of rabbit grazing was so high that flowering of plants such as viper's bugloss was noticeably reduced. It is likely that the rabbit population will be cyclical, however, and control is not recommended.

Objective 2: To maintain and where possible increase populations of Avon Notable Species.

Management over the previous five years has been successful in increasing populations of species known to be present previously, and in allowing further species to colonise the site. In order to maintain this interest it is vital that two habitats in particular are maintained on the site: sparse grassland and estuarine grassland. The former habitat is present in large parts of areas 4 and 6. The latter is much more restricted and is concentrated in area 5. Methods by which this should be achieved are described in the Prescriptions section at 2.1, 2.2 and 2.3 below.

Objective 3: To enhance grassland areas by appropriate management.

Species-rich long-established grassland, present at area 3 and area 4, requires similar management to maintain nature conservation interest to that for sparse grassland in the form of periodic control of scrub. Regular hay cuts should not be required here.

Grazing remains impractical over most of the site, but pony paddocks have been grazed. Pony grazing can be damaging to grassland swards, particularly when stocking rates are heavy. The current regime of pony grazing during the summer months on the paddock at the southern end of the site, however, is appropriate to maintain the grassland here and the grazier has carried out valuable scrub control.

Grassland is often cut annually, but on most of this site the nature of the soils means that this is not necessary, and would be damaging to invertebrate populations and expensive. The grasslands on the former landfill site, however, would become rank without management and they should be cut

annually in order to maintain their amenity value. Arisings should be gathered and removed.

Objective 4: To maintain the invertebrate interest of grassland and tall herb habitats.

The works carried out to date have been successful in enhancing invertebrate habitat on the site and several new records of species of interest have been made. However, there is little detailed information on invertebrates and it is possible that the specific habitat requirements of rare species are not being taken into account. A specialist survey of invertebrates would address this deficiency and allow more informed management planning.

Objective 5: To maintain slow worm habitat on the site.

Maintenance of areas of open habitat should safeguard habitat for slow worms, and refugia and hibernacula are plentiful.

Objective 6: To maintain and enhance the value of scrub and planted woodland for breeding birds and insects.

In the past scrub expansion covered large areas of grassland, but recent management has cleared significant areas of scrub. Scrub is of value in its own right, particularly where it is dense enough to offer good bird breeding habitat and diverse enough (including patches of tall herbs) to offer good insect habitat. It is felt that the current balance of grassland to scrub on the Bristol City Council owned land is approximately correct and further large-scale clearance of scrub is not proposed. Some areas of scrub may require management to prevent succession to secondary woodland (where a complete canopy of taller shrubs and trees shades out the herbs entirely) by periodic removal of tree saplings and flailing of scrub. Secondary woodland supports far fewer species of bird and insect than well-managed scrub.

Scrub can maintain its nature conservation value for years without management but given the appropriate management at regular if distant intervals the value of the scrub can be maximised. Scrub management should aim to create a range of age structure from low, dense young bramble scrub (such as most of area C) to older scrub with a mixture of taller species (such as area B). It is important to manage areas on rotation so that only part of the site is managed at once - this helps to maintain insect populations and retain breeding bird habitat at all times. The range of age structure can be achieved by the cutting of random clearings into areas of scrub and then allowing them to revegetate naturally. Each clearing should generally cover approximately 20% of any one area of scrub. In time the randomness of the clearings will create a mosaic of different aged shrubs within each scrub area.

Several fruit trees have been planted in the south-western part of area 7 as part of a community orchard. These trees should be maintained and further planting should be carried out to extend the orchard.

Such management will only be required at intervals of several years, but small amounts of this work would be beneficial during the next five years.

Objective 8: To maintain and enhance the site's landscape character. Important landscape features of the site include views into the site from Portway and from housing along The Portway and views from the site the River Avon to open countryside beyond, although the presence of Portbury Dock detracts from these views.

Much of the nature conservation management carried out has had land benefits. These include removal of the Costain compound; breaking up of areas of hard-standing to create new flower-rich grassland; and planting trees on area 7. The installation of formal site entrances and fencing along The Portway has improved the site's appearance.

Viewpoints across the river should be maintained as open habitats (also of benefit to nature conservation), whilst retaining a band of scrub elsewhere to protect estuarine birds from disturbance. The estate fencing and gates. The Portway and the gateways at site entrances are important and maintenance should be given high priority. The hedge along the Portway has established well and already provides a partial screen, but will require maintenance in the form of periodic cutting to maintain a low bushy structure.

Objective 9: To maintain and improve appropriate public access enjoyment.

Significant works have been undertaken to improve access provision to parts of the site and these have been partially successful both in encour appropriate access and discouraging inappropriate activities successful both in encour appropriate access and discouraging inappropriate activities successful both in encour appropriate access and discouraging inappropriate activities successful both in encour appropriate activities successful both in encour appropriate accessful both in encour appropriate activities successful both in encour appropriate accessful both in encourage accessful both in

The existing infrastructure will require maintenance. Signs at entrances to site would improve public understanding and enjoyment of the site. Further events should be held on the site and more effort could be made to public its special features. For some years the access for all path could be access by cars from West Town Road, and this led to burning of cars and dumpin waste, with significant adverse impacts on amenity value. It is important such access is prevented. There are as yet no seats in the resting bays have been provided and their provision would be beneficial in enhancing opportunities for quite enjoyment of the site and for views across the River

Avon.

Concerns have been voiced that growth of vegetation across the path impedes access at times, particularly for visually impaired people. Parking for disabled people would be beneficial.

Objective 10: To involve the local community in the management of the site. Shirehampton Greens have been involved in site management through activities such as seed gathering events. There is potential for further involvement, both in habitat management and through activities such as local history workshops.

Objective 11: To maintain the site in a safe condition.

There are various health and safety issues on the site. Most of these arise from human activities, including motorbike riding, with the potential for collisions with pedestrians; the presence of debris such as broken glass; and the presence of large quantities of dog waste. The last problem has been partially mitigated by the provision of bins. The proximity of the estuary to parts of the site also presents a risk, as do steep slopes for example in area D.

Litter should be removed from the site monthly, or more often in response to an identified problem. Local residents should be encouraged to report significant problems to Bristol City Council. Consideration should be given to providing further dog waste bins.

Specialist advice should be taken on the advisability of providing signs warning of inherent hazards such as the estuary.

A health and safety audit of the site should be made twice a year and written record of matters arising should be kept.

Objective 12: To monitor the success of this plan.

The existing plan has been intensively monitored through a programme of photographic and botanical monitoring, and minor amendments to site management have been made as a result.

It is important to maintain a record of success in meeting objectives and the monitoring programme has provided a means of doing this. The establishment phase of the site is now over, however, and a less intensive programme of monitoring is therefore proposed. There has been no formal monitoring of the success in meeting amenity objectives and a questionnaire to local residents and site users would provide a means of achieving this.

Objective 13: To secure long term management of the site

The site will require management in the future if its nature conservation and amenity value are not to decline, in particular to prevent scrub encroachment across open vegetation and the footpath. Funding from sources such as planning obligations associated with the park and ride site and previous use of part of the area by Costains should be secured.

Objective 14: If a realistic opportunity arises within the life of this management plan, to consider the potential for restoring and enhancing the marsh which lies within the privately owned land. This is not a current commitment as at present the opportunity is not available.

No progress has been made towards meeting this objective, which was included in the previous management plan. This has allowed further deterioration in this area, with the ongoing loss of the marsh being reflected in the disappearance of reed and sedge warblers. The photographic monitoring has shown the spread of Japanese knotweed through this area. A reminder to the owner of his/her responsibility for controlling this species and an offer of assistance might encourage a more co-operative attitude. The city council should also consider entering into a management agreement with the owner as part of the potential declaration of Lamplighters Marsh SNCI as a Local Nature Reserve to facilitate appropriate management of this area.

Objective 15: To investigate the potential for Local Nature Reserve declaration in line with condition 15 of the 2008 planning consent and as laid out in the LNR strategy and to implement as appropriate and feasible.

Declaration of the site as a Local Nature Reserve would be a formal acknowledgement of its significant value for nature conservation and amenity, and would help secure the long-term management of the site and facilitate greater involvement by the local community.

5.2 Project Register

There is considerable overlap between the objectives that are met by projects 1.1 to 4.2, with most contributing to several objectives. Projects have been placed under the objective to which they make the largest contribution.

Scrub management should be carried out outside the bird nesting season, which runs from 1st March to 31st August.

Objective 1 To maintain the area of sparse grassland and tall herb habitats.

1.1 Cut back bramble and other scrub encroaching onto the grassland in area 4 in 2008 and 2010.

Long term proposal: Repeat management every two years.

- 1.2 Enlarge area 3 by 50% by clearing bramble and other scrub on the northern side of the existing grassland area in 2008.

 Long term proposal: Repeat clearance every four years.
- 1.3 Cut back bramble and other scrub encroaching onto the grassland in area 3 in 2008 and 2010 Long term proposal: Repeat every other year.
- 1.4 Cut back scrub on the northern edge of area 2 (the horse paddock) in

2008 and 2010

Long term proposal: Repeat every other year.

1.5 Cut back bramble in area 6, using machinery that removes the roots as before. Work on a rotation so that the area to the west of the footpath is cleared in 2008, 2010 etc and the area to the east of the footpath is cleared in 2009, 2011 etc.

Long term proposal: Continue cycle.

1.6 Cut back bramble and other scrub on the eastern edge of the footpath through area 4 in 2008 and 2011, and on the western edge of the footpath in 2009 and 2012.

Long term proposal: Continued cycle.

1.7 Treat japanese knotweed according to current best practice. Use of herbicide is acceptable here. Treat regrowth as required. Long term proposal: Monitor for any further colonisation, and treat as necessary.

Objective 2 To maintain and where possible increase populations of notable species

- 2.1 Clear back buddleia, bramble and other scrub species encroaching across the former desire path on the boundary between areas 6 and F (the former Costain's Compound) in 2011.

 Long term proposal: Repeat every four years.
- 2.2 Clear back buddleia in eastern part of area F, the former Costain's

Compound, in 2011.

Long term proposal: Repeat every four years.

2.3 Clear back bramble and other scrub growing on the edges of area 5 in 2009.

Long term proposal: repeat every four years.

Objective 3 To enhance grassland areas by appropriate management

3.1 Continue the present regime of pony grazing in area 2 but monitor and control to prevent over-grazing.

Long term proposal: Continue monitoring, and modify management regime if necessary.

3.2 Manage the grassland in areas 7 and 8 by cutting once a year and removing the cuttings. Include the road bank and the orchard in area 7 in this regime.

Long term proposal: Continue annual grass cut.

3.3 Treat japanese knotweed clump on edge of area 9 with herbicide. Long term proposal: Monitor for further colonisation and carry out control as necessary.

Objective 4 To maintain the invertebrate interest of grassland and tall herb habitats.

- 4.1 Commission a specialist invertebrate survey of the part of the site to the west of the railway, with management recommendations.

 Long term proposal: Repeat survey after ten years.
- 4.2 Review management of the site in light of these recommendations.

Objective 5 To maintain slow worm habitat on the site

5.1 Monitor slow worm population, and identify management requirements if population is in decline.

Long term proposal: Continue to monitor.

Objective 6 To maintain and enhance the value of scrub and planted woodland for breeding birds and insects

6.1 Allow the wooded slope, area D, to continue to develop as woodland. Retain all dead and dying trees unless they pose a threat to public safety. If trees have to be felled or limbs removed put the felled wood into the woodland and leave to decay naturally.

Long term proposal: Monitor, and thin tree growth after ten years.

6.2 Treat japanese knotweed in area B with herbicide.

Long term proposal: Monitor for colonisation and treat as necessary.

- 6.3 In areas A, B and C fell ash and sycamore saplings and flail patches of bramble 10 metres by 10 metres. Carry out in 2008 and 2011 (see 7.1 below). Long term proposal: Repeat every three years.
- 6.4 Maintain the fruit trees in area 7 by appropriate pruning and cut grass below the trees four times between May and September Long term proposal; Repeat annually.
- 6.5 Plant a further twenty fruit trees, extending the small orchard in area 7. Use local varieties of apple, pear and plum.

 Long term proposal: Check on condition of trees after five years and carry out any necessary re-planting or pruning.

8.1 Maintain viewpoints along river's edge as grassy clearings by scrub clearance if necessary.

Long term proposal: Carry out further clearance as necessary.

8.2 Maintain fence and hedge along the Portway fence, including cutting of vegetation under the hedge in August.

Long term proposal: Lay hedge after ten years.

- 8.3 Maintain entrances to site, repair and repaint as necessary. Long term proposal: Continue maintenance.
- 8.4 Carry out regular litter clearance.

 Long term proposal; Continue litter clearance..

Objective 9 To maintain and improve appropriate public access and enjoyment

- 9.1 Monitor condition of paths and access points and repair as necessary. Long term proposal: Continue monitoring and maintenance.
- 9.2 Provide signs at the main access points at the southern end of the site (near Lamplighters pub), under the motorway bridge and at the southern entrance to area 7.
- 9.3 Monitor condition of signs and replace as necessary. Long term proposal: Maintain and replace signs as necessary.
- 9.4 Clear back any bramble or other vegetation encroaching across the path as required, and on at least a fortnightly basis between May and September.

Long term proposal: Continue to keep footpaths clear.

- 9.5 Install kissing gates, negotiable by pushchairs and wheelchairs, at the entrances to the site.
- 9.6 Maintain the entrances to the site in a tidy condition, and ensure that fly-tipping is removed promptly.

 Long term proposal: Continue maintenance and removal of fly-tipping.
- 9.7 Install signs prohibiting riding of motorbikes at the entrances to the site. Long term proposal: Maintain signs.
- 9.8 Provide seating in the resting areas already created, Long term proposal: Maintain seats.
- 9.9 Seek funding for disabled car-parking at the northern entrance to the site.
- 9.10 Prepare a leaflet explaining the access arrangements and the wildlife interest of the site and distribute to local schools, community centres and

Lamplighters pub.

Long term proposal: Review leaflet after five years and re-publish.

Objective 10 To involve the local community in the management of the site

10.1 Initiate local history project to gather information and anecdote about the site and the wider area.

Long term proposal: Archive material and produce suitable report, either as leaflet or on a web site.

10.2 Work with Shirehampton Greens to involve local people in the site management by holding scrub-bashing days eg to achieve projects 2.1 and 2.2 and in site monitoring.

Long term proposal: Set up friends group to strengthen community involvement.

Objective 11 To maintain the site in a safe condition

- 11.1 Encourage local residents to report any health and safety issues to the City Council, and remedy as appropriate.
 Long term proposal: Continue.
- 11.2 Carry out a twice-yearly health and safety audit. Maintain a written record and carry out necessary works.

 Long term proposal: Continue.

Objective 12 To monitor the success of the plan

12.1 Continue the existing monitoring programme, but reduce to every other year: 2008, 2010 etc.

Long term proposal: Continue biennial monitoring.

12.2 Review success of plan after five years and produce new version.

Long term proposal: Produce an updated management plan after five years.

Objective 13 To secure long term management of the site

13.1 Secure funding from planning obligations arising from construction of the existing park and ride site, its proposed extension and from previous use of part of the site by Costains.

Objective 14 To restore the marsh

- 14.1 Pursue incorporation of the currently privately owned land (Area B) which includes the actual marsh into the Management Plan. One strategy could include making the owner aware of his responsibility to control Japanese knotweed. Should this opportunity arise the following projects are recommended.
- 14.2 Conduct a plant survey of the marsh and surrounding scrub at an

appropriate time of year (May to September).

- 14.3 Investigate reasons for drying out of marsh and formulate a method to restore water levels.
- 14.4 Formally incorporate the marsh area into the management plan and revise the plan accordingly.

Long term proposals: Carry out measures to reverse drying out of marsh, control scrub and eradicate Japanese knotweed.

Objective 15: To investigate the potential for Local Nature Reserve declaration in line with condition 15 of the 2008 planning consent and as laid out in the LNR strategy and to implement as appropriate and feasible.

15.1 Implement the measures outlined in the LNR strategy to move towards formal designation.

Long term proposal: Manage the site as a Local Nature Reserve.

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|------------|----------------|---|------------|-----------------------|------------|
| 1.1 Cut back bramble and other scrub encraoching onto grassland in area 4 | Nov-Jan | | Nov-Jan | | Nov-Jan | |
| | Nov-Jan | | | | | |
| 1.3 Cut back bramble and scrub encroaching onto grassland in area 3 | Nov-Jan | | | | Nov-Jan | |
| 1.4 Cut back scrub on northern edge of area 2 (horse paddock) | Nov-Jan | | | | Nov-Jan | |
| 1.5 Cut back bramble in western part of area 6 | Nov-Jan | | Nov-Jan | | Nov-Jan | |
| 1.5 Cut back bramble in eastern part of area 6 | | Nov-Jan | | Nov-Jan | | Nov-Jan |
| 1.6 Cut back bramble and scrub on eastern edge of footpath through area 4 | Nov-Jan | | | Nov-Jan | | |
| 1.b Cut back bramble and scrub on western edge of footpath through area 4 | | Nov-Jan | *************************************** | | Nov-Jan | |
| 2.1 Clear bramble and other scrub between areas 6 and F | - | | | Nov-Jan | | |
| 2.2 Clear back buddleia and other scrub on eastern edge of area F | | | | Nov-Jan | | |
| 2.3 Clear back bramble and other scrub on edges of area 5 | | Nov-Jan | | | | |
| 3.1 Pony graze area 2 | June-Nov | June-Nov | Volv-enil. | Vol. Anti- | June-Nov | Inne-Mov |
| 3.2 Mow areas 7 & 8, remove arisings | July-Aug | July-Aug | July-And | Inter-Aug | ink And | listy Aria |
| 3.3 Treat Japanese knotweed in area 9 | May-Aug | May-Aug | May-Aug | Specimo | Sav-kine | Snx-king |
| 4.1 Carry out invertebrate survey of area to west of railway | | May-Aug | | | | |
| 5.1 Monitor slow worm population | | May-Aug | May-Aug | May-Aug | May-Aug | May-Aug |
| 6.1 Allow wooded slope, area D, to develop 6.2 Treat Japanese knotweed in area B | - | | | | | |
| 6.3 Flail patches of scrub in area A, B and C, check for badger setts | Nov-Jan | | | Nov-Jan | | |
| 6.5 Plant a further twenty fruit trees and prune as necessary | May-Aug | May-Aug Feb | May-Aug | May-Aug | May-Aug | May-Aug |
| 8.1 Maintain viewpoints along River Avon | | Nov-Jan | | | | |
| 8.2 Cut vegetation below hedge on Portway fence 8.3 Maintain entrances to site as necessary | Aug | Aug | Aug | Aug | Aug | Aug |
| 8.4 Carry out litter clearance | Throughout | Throughout | Throughout | | Throughout Throughout | Throughout |
| 9.1 Repair paths and access points as necessary | | | | | | |
| 9.2 Provide signs at entrances to site 9.3 Repair signs as necessary | | October | | | | |
| | | | | | | |

Wessex Ecological Consultancy March 2008

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|--|--|-------------------|------------|------------|------------|
| 9.4 Cut back vegetation along path | May-Sept | May-Sept | May-Sept | May-Sept | May-Sept | May-Sept |
| 9.5 Install kissing gates | | May | | | | |
| 9.6 Remove fly-tipping as necessary | | | | | | |
| 9.7 Install signs forbidding motorbikes | | May | | | | |
| 9.8 Provide seating | 11 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 | | | | | |
| 9.9 Seak funding for disabled car-parking | 0.00 | Jan-Mar | | | | |
| 9.10 Prepare and distribute leaflet | | October | | | | |
| A Market Land Linds of the Control o | | Mari | | | | |
| To. I intrate local nistory project | | MEN | | | | |
| 10.2 Hold scrub-bashing days | | Nov-Jan | Nov-Jan | Nov-Jan | Nov-Jan | Nov-Jan |
| 11.1 Respond to health and safety issues | Throughout | Throughout Throughout Throughout Throughout Throughout | Throughout | Throughout | Throughout | Throughout |
| 11.2 Carry out health and safety audit | Mar&Sept | Mar&Sept | Mar&Sept Mar&Sept | Mar&Sept | Mar&Sept | Mar&Sept |
| | | | | | | |
| 12.1 Monitor vegetation and wildlife | June-Aug | | June-Aug | | June-Aug | |
| 12.2 Update management plan | | | | | | Oct-Dec |
| | | | | | | |
| 14.1 Pursue ownership of private land | Oct-Jan | | | | | |
| | | | | | | |
| 15.1 Pursue designation as Local Nature Reserve | Throughout | Throughout Throughout Throughout | Throughout | | | |

LAMPLIGHTERS MARSH SNCI FIVE YEAR MANAGEMENT SCHEDULE

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| sland, with (| if viper's sein and s | Drying out marsh (not in a BCC ownership) | wood small-reed wood small-reed | on Damp grassland with some notable plant species | s Stationary Office © Crown Copyright 2000. Date: |
| Developing sparse grassland, notable plant species | Dugloss, moth mullein other notable plants | north and reates the pugloss is bugloss | Populations of distant sedge and other estuarine plants | Badger sett (precise location not shown) | Her Majesty |
| | Large populations of notable species of sparse grassland - small mouse-ear, common storksbill etc | Six-belted clearwing moth and other notable invertebrates other notable invertebrates Populations of viper's bugloss and moth mullein | Populatio other estu | | Reproduced from the Ordinance Survey map with the permission of the Controller of Insushbriteest remarkations forows Conjudent and many lead to personation of |

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