Report on the development of Biodiversity / Green Corridors in the Parish of Aldingbourne

This report has been prepared on behalf of Aldingbourne Parish Council to provide the supporting evidence behind the creation of Biodiversity / Green Corridors in the Parish of Aldingbourne as part of the Aldingbourne Neighbourhood Development Plan. The report provides the rationale for designation and then focusses in particular on the area of land immediately east of the Village of Westergate which have been included within the biodiversity / Green Corridor.

The Rationale for Designation

The establishment of Biodiversity / Green Corridors within the ANDP were based initially on the mapping of chalk steams running through the Parish which formed a series of linear interconnected corridors. The identification of these streams was based on:

Holmes, N.T.H. 2010. An investigation of the watercourses in Sussex arising from the chalk aquifer of the South Downs: merged reports from December 2009 & December 2010. A report to the Sussex Wetland Landscapes Project.

The corridors based on the Chalk streams (which are Priority Habitats in the UK Biodiversity Action Plan) provide the framework and followed the rationale in "Making Space For Nature" in using natural corridors. Of themselves the chalk streams are narrow and vulnerable to impacts from adjacent land use such as fertiliser or spray drift from arable land and have a limited capacity to encourage the effective movement of a broad variety of plant and animal species. To address this shortcoming areas of grassland / woodland lying next to these streams were incorporated where possible into the corridors to better defend the chalk streams and improve the effectiveness of these routes as biodiversity corridors.

The chalk streams therefore provide the focus for the initial drafting of the maps, with additional areas adjacent to these streams contributing to the effective development of biodiversity corridors. This work is ongoing.

In preparing the Neighbourhood Plan the Parish Council also wished to take account of the landscape and where possible integrate ecological and landscape objectives. To understand the landscape pattern of the Parish the Parish Council examined the 1848 Tithe maps to identify the historic landscape pattern. This was supplemented with a view of the 1948 RAF maps of the area and current aerial photographs to identify those areas in which the traditional pattern of small scale parcels of land still survived and which might contain remnant habitats, in order to conserve elements of the historic landscape pattern of small fields as well as contributing to a more coherent biodiversity / green corridor approach.

The analysis reveals a substantial simplification of the field pattern within the Parish as a result of agricultural improvement over the past 150 years. However adjacent to the village that landscape pattern could still be identified in a few key locations, of which the fields east of Westergate are one.

The rationale underpinning the creation of Biodiversity / Green Corridors follows the following key policy areas:

- The European Landscape Convention (ELC) requires "landscape to be integrated into regional and town planning policies and in cultural, environmental, agricultural, social and economic policies, as well as any other policies with possible direct or indirect impacts on landscape".

- Making Space for Nature: A Review of England's Wildlife sites and Ecological Networks by Sir John Lawton. NB this report does not restrict its response to key habitats but makes it clear that it is not possible to halt and reverse the decline of England's wildlife without a larger network of more wildlife sites, bigger sites, better managed, more heterogeneous and more interconnected.

- The National Planning Policy Framework, which provides the Planning Framework for the Lawton report.

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- Biodiversity 2020: A strategy for England's wildlife and ecosystem services, which says:

  A more integrated large-scale approach to conservation on land and at sea 13. The independent review of England's wildlife sites and ecological network, chaired by Professor Sir John Lawton, concluded that England's collection of wildlife areas (both legally protected areas and others) does not currently represent a coherent and resilient ecological network capable of responding to the challenges of climate change and other pressures. The review concluded that establishing such a network would effectively conserve biodiversity and ecosystem services, delivering many benefits to people, while also making efficient use of scarce land and resources.

  The document goes on to state that (Para 16)

  It is crucial to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help. Civil society organisations play a front line role, directly engaging and enthusing the public about biodiversity. We will work with them to engage more people and empower them to make a difference.

  And in Para 17

  Actions we will take include:

  • Working with key stakeholders to consider how the nature conservation sector can engage the public even more effectively in future and how government might support this.

  • Getting more children learning outdoors, removing barriers and increasing schools' abilities to teach outdoors.

  • Establishing a new green areas designation, empowering communities to protect local environments that are important to them.

  - *• Helping people 'do the right thing', at home, when shopping, or as volunteers. For example, we will provide funding to support the Big Wildlife Garden scheme and launch a new phase of the MuckIn4Life campaign, offering volunteering opportunities to improve the quality of life in towns, cities and the countryside*

In developing the Biodiversity / Green Corridor approach the Parish Council has also had regard to linking these corridors to the Rights of Way network and areas with informal

public access. In addition, the council wishes to involve the schools within the Parish with this project. A primary and a secondary school lie adjacent to this site.

The Parish Council does not view this corridor approach in isolation and is in discussion with adjacent Parishes about expanding the biodiversity Corridors using the Chalk streams as a focus together with the addition of adjacent land to provide a more coherent network. In addition the Parish Council is working with the Sussex Wildlife Trust and with WSCC Rangers to plan a coherent approach to conservation and management.

Ecological and Landscape Report for Aldingbourne Parish Council

The site

The Site Location and Map are accurately shown in the ECOSA report.

Methodology

In addition to the use of the tithe maps explained in the Rationale for Designation, a series of site surveys were undertaken in both 2013/14 and April, May and June 2016.

Landscape

The fields on this site form part of the surviving landscape pattern which can be identified on the 1847 Tithe Maps. It consists of small fields surrounded by mature hedges containing numbers of mature trees. This is one of the very few areas in the parish in which the original field pattern remains largely unaltered.

The site with its landscape pattern is a significant landscape element of the Parish, given particularly prominence by its close proximity to the village.

The fields lie within a shallow valley formed by the Eastergate Rife and the low level of the site in relation to higher land to the West and East together with the mature hedgerows and trees give it a particularly enclosed rural feeling. The arable field to the South is included because it forms a part of the overall field pattern and is intrinsic to the overall sense of place within the valley setting, forming the focus of the distant view as one walks south through the valley.

Grassland

The fields are predominantly grassland with a single arable field to the SW. The fields have undoubtedly all been ploughed in the past and the species mix indicates that they have subsequently tumbled back to grassland rather than being a grass ley as suggested by the ECOSA report.

The following grass species were recorded within the grassland: Common Couch (*Agropyron repens)*, Creeping Bent Grass (*Agrostis stoloniofera)*, Black Bent Grass (*Agrostis gigantean)*, Meadow Foxrtail (*Alopecurus geniculates)*, Sterile Brome (*Bromus sterilis)*, Upright Brome (*Bromus erectus)*, Cock's Foot (*Dactylus glomerata)*, Timothy (*Phleum pratensis spp pratensis)*, Smaller Cat's Tail (*Phleum pratensis spp bertolonii)*, Rough Meadow Grass (*Poa trivialis)*,
Annual Meadopw Grass (*Poa annua)*, Smooth Meadow Grass (*Poa pratensis)*, Red Fescue *(Festuca rubra)*, Tall Fescue (*Festuca arundinacea)*, Yorkshire Fog (*Holcus lanatus)*, Wall Barly (*Hordenn murinum)*, Meadow Barly (*Hordenn sacalinum)*, Perennial Rye Grass (*Lolium perenne)*, Italian Rye Grass (*Lolium multiflorum*.

Whist Lolium perenne is present and dominant in some areas, other areas are dominated by other grass species including Meadow Foxtail (*Alopecuris pratensis*), Upright Brome (Bromus erectus) and Yorkshire Fog (*Holcus lanatus*) along with Rough Stalked Meadow Grass (*Poa trivialis* Meadow Grass (*Poa pratensis)*, and Annual Meadow Grass (*Poa annua*), Cock's-foot (*Dactylus glomerate*).

Where Meadow Foxtail (*Alopecuris pratensis*) or Yorkshire Fog (Holcus lanatus) are abundant, these species can form dense swards that allow few other grasses and very few herbaceous species to colonize and thrive, which explains the lower botanical diversity in parts of the site.

There is also evidence that some of the fields and margins contain elements of the original grassland species including: Field Barley (*Hordenn murinum)*, Glaucous Sedge (*Carex*

flacca), Hairy Sedge (*Carex hirta),* False Fox Sedge (*Carex otrubae),* Spiked Sedge (*Carex spicata,* Hard Rush (*Juncus inflexus*), Bugle (*Ajuga praimidalis*), Hairy Chervil (*Chaerophyllum hirsutum).*

These species are recorded along with Meadow Buttercup (Ranuculus acris), Creeping Buttercup (Ranunculus repens), Bulbous Buttercup (*Ranunculus bubosus)*, Cut Leaved Cranesbill (*Geranium disectum*), Red Clover (Trifolium pratensis) Field thistle (*Cirsium arvensis*), Spear thistle (*Cirsium lanceolatum*), (Convolvulus arvensis), Ragwort (Senecio), (Pulicaria disenterica), (Plantago media), Dandelion (Taraxicum agg)

Damper areas of the grassland contain Great Willow Herb (*Epilobium hirsutum*) and occasionally Meadowsweet (*Filipendula ulmaria).* Musk-mallow (*Malva moschata)* Common Mallow (*Malva sylvestris),* Black medick (*Medicago lupulina)* were also recorded.

Given the extensive loss and fragmentation of grassland habitat nationally in the past 50 years and the significant fragmentation of habitat in the Parish (an area identified as having high habitat fragmentation, Laughton 2011) which is dominated by productive arable land, the existence of an historically intact landscape with a reasonable botanical diversity is important in the context of creating viable biodiversity corridors. The point that grasslands support other species is also dealt with later in this report.

Fields / Scrub

There are two fields with a significant regeneration of Oak giving rise to a mixed grassland scrub habitat.

The ground in the northern most of these fields is dominated by the grass Holcus lanatus though there are patches of (Stellaria gramine) and (Lusula campestre). There is significant Oak regeneration within the field and there are a significant number of ant hills of the yellow meadow ant.

The western field is more botanically diverse and also contains Perforate St John's-wort (*Hypericum perforatum),* Smooth Tare (*Vicia tetrasperma),* Short Fruited Willowherb (*Epilobium obscurum).*

Wet Woodland

A wet woodland occurs within the area, which is part open and part dominated by Crack Willow (*Salix fragalis*), although though both Pedunculate Oak (Quercus robur), Field Maple (Acer campestre) and Ash (Fraxinus excelsior) Hazel (Corylus avellana) Goat Willow (Salix caprea) and English Elm *Ulmus procera)* are also present. The woodland floor is largely dominated with Nettle (*Urtica dioica*) and Cow Parsley (Anthryscus sylvestris), with Bramble (Rubus frutucousus agg) occurring in the more open areas. Hemlock Water Dropwort (*Onenathe crocata*) and Drooping Sedge (Carex pendula) occur principally along and adjacent to the chalk stream. Other plant species include Green Hellebore (*Helleborus viridis*), Dogs Mercury (*Mercuralis perennis*), Meadow sweet (*Filipendula ulmaria*), Wood sedge (*Carex sylvatica*), Giant Fescue (*Festuca gigantean)* Lesser Celendine (*Ranunculis ficaria*), Fool's Water-cress (*Apium nodiflorum*), Wavy Bittercress (*Cardamine flexuosa*), Thyme-leafed Speedwell (*Veronica serprilifolia*) and Wood Dock (*Rumex sanguineus).*

Bryophytes recorded on banks of the stream include Slender Pocket Moss (*Fissidens exilis)* and Crested Cup Liverwort *Lunularia crucinata.*

This wet woodland is significant because it also lies across a small chalk stream which runs through the site and eastwards crossing the grassland. This wet woodland, is most probably a remnant floodplain (NVQ - W8) indicated by the presence of Ash (Fraxinus excelsior), Field Maple (Acer campestre) and Dogs Mercury (Mercuralis perennis),

woodland which has been modified. NB:- Wet Woodland is a priority habitat under the UK Biodiversity Action Plan.

Hedgerows

The hedgerows within the site are substantially unmanaged and follow the recognisable 1847 field pattern boundaries. There are a number of large mature trees of Pedunculate Oak (*Quercus robur),* Sycamore (*Acer pseudoplantanus*), Ash (*Fraxinus excelsior)* and Horse-chestnut (*Aesculus hippocastanum*) along with Field Maple (*Acer campestre*), Hawthorn (*Cratagus monogyna*), Black Thorn (Prunus spinosa) Elder (*Sambucus nigra*), Dogwood (*Cornus sanguinea*), Bramble (*Rubus fruticose agg*) Field Rose (*Rosa arvensis).* In addition, Hop *(Humulus lupulus)* White Bryony *(Bryonia dioica)* and Black Bryony *(Tamus communis)* Bittersweet (*Solanum dulcamara)* Traveller's-joy (*Clemitas vitalba)* occur.

The hedgerows have been left unmanaged and the subsequent expansion of bramble has created a broad hedgerow habitat.

Aquatic habitats

These comprise two Chalk streams running through the site both West to East and North to South along its eastern edge. (Note that the West – East stream is misidentified in the ECOSA report as a field drainage channel.)

The eastern stream edges are dominated by Hemlock Water Dropwort (Oenathe crocata), with Water Cress *(Nasturtium officinale)* and Fools Watercress (*Apium nodiflorum*), Great Willowherb (*Epilobium hirsutum*), Field Forget me not (Myosotis arvensis), Water Mint (*Mentha aquatica*) are also found grow adjacent. The Water starwort (*Callitriche obtusangula* and not C. stagnalis as identified in the ECOSA report) is growing at a number of locations within the stream.

The central stream (not a drainage ditch as reported) is in places difficult to distinguish because of the abundant vegetation but contains Watercress (*Nasturtium officinale*), Iris, (*Iris pseudacorus*), Water figwort (*Scrophularia auriculata*) and Hemlock Water-dropwort (*Oenanthe crocata*) Glyceria fluvitans.

In addition, Purple-loosestrife (*Lythrum salicaria)*, Common Figwort (*Scrophularia auriculata),* Blue Waterspeedwell (*Veronica anagallis-aquatica),* Brooklime *(Veronica beccabunga)* Floating Sweet Grass (*Glyceria fluvitans)* Reed Sweet Grass (*Glycera maxima)* are recorded.

Both streams contain breeding Stickleback. NB The Chalk streams are a priority habitat under the UK Biodiversity Action Plan.

Arable Field

The arable field is rises slightly above the valley and is therefore a highly significant landscape feature in the context of the site.

Whilst an arable field it does contain a range of ruderal species including Pineappely Mayweed (*Matricaria discoidea)*, Scentless Mayweed (*Tripleurospermum indorum)* Scented Mayweed (*Matricaria chamomilla),* Common Field Speedwell (*Veronica persica),* Sharp-leved Fluellen (*Kickxia elatine),* Sun Spurge (*Euphorbia heliscopia)* Petty spurge (*Euphorbia peplus).*

Birds

The following bird species have been recorded as present on site visits and/or by local residents: Dunnock, House Sparrow, Linnet, Song Thrush, Blackbird, Wren, Whitethroat, Yellow Hammer, Robin, Blue tit, Great tit, Coal Tit, Chaffinch, Green finch, Black Cap, Garden Warbler, Sedge Warbler and Kingfisher (passing through the site). Barn Owl and Kestrel are regularly recorded foraging across the site.

Comment:

The report notes that there are 13 recorded breeding bird species on the site but does not cover breeding density. This is an important point because there are numerous numbers of each species breeding on the site. This contributes to its overall biological interest and together with varied bird song provides considerable pleasure to local people and contributes greatly to the sense of place.

The report makes no comment on the presence of Barn Owl or on the sites importance as a foraging area. The home range for a Barn Owl can vary from 5,000ha in winter to 350 ha in summer and requires an adequate foraging habitat within that home range. The best foraging habitat for Barn Owls is open, rough, tussock grassland because it provides a lot more cover for field voles.

Bats

The site contains several bat species. The ECOSA Report identifies 6 species present as foraging species including, Pipistrelle, Soprano Pipistrelle, Noctule, Myotis, Long-eared Bat and Serotine. The context against which this needs to be understood is set out as follows in *JNCC Habitat Management for Bats:*

During the 20th century, bat numbers have plummeted in parallel with dramatic changes in the countryside. Several species of bats are now seriously threatened. Even the more common bats have suffered dramatic declines. Pipistrelle numbers, for example, are estimated to have dropped by about 70% during the 15-year period 1978-1993.

Conservation of bats is complex and needs to take account of several factors, including the protection of summer roost sites, the protection of winter hibernation sites, and the protection and appropriate management of habitats where bats feed.

Management policies for bats in Britain should endeavour to preserve and enhance the availability of woodland, water margins and linear corridor habitats. Lack of continuity of the landscape, loss and fragmentation of habitat patches plus deterioration of the quality of such patches may pose a threat to bat populations.

Invertebrates

We have begun to look at the principle butterfly and moth species across the site which include the following. This is, however, work in progress and ideally requires a complete season's study:

Butterfly species: Small Tortoiseshell, Common Blue, Small White, Orange Tip, Green Veined White, Meadow Brown, Large Skipper

Moth species; Green Carpet, Common Carpet, Clay Triple Lines, Puss Moth, Silver Y, Pale Tussock, Purple Clay.

The context in which this needs to be understood is set out in *Butterfly Conservation The State of Britain's Larger Moths 2013*

The new State of Britain's Larger Moths 2013 report shows clearly that moths are in decline. The total number of larger moths recorded in the national network of

Rothamsted trap samples decreased by 28% over the 40 years from 1968 to 2007. Declines are worse in southern Britain, with a 40% decrease in total abundance, while there was no overall change in northern Britain (where declines have been offset by increases).

The widespread decline of Britain's moths is a clear signal of potentially catastrophic biodiversity loss caused by human impacts on the environment. Moths comprise a substantial part of Britain's biodiversity and play important roles in food chains and as pollinators. Their decline will have knock-on effects on the birds, bats and mammals, which depend on them for food, and shows widespread degradation of our environment caused by habitat loss (e.g. to intensive agriculture, changing woodland management and urbanisation). Chemical and light pollution of the environment may also be having significant negative effects on moth populations, while climate change is causing both positive and negative impacts.

Mammals

While the ECOSA report found no water voles, a dead field vole was found on the site. Badger, Otter and Dormouse have not been recorded.

Reptiles

Two reptile species are recorded from the site by ECOSA: Slow Worm, Common lizard. The context for these species is as follows:

Slow worm (*Anguis fragilis):* In the United Kingdom, the slow worm is protected under Schedule 5 of the Wildlife and Countryside Act (1981). Under this act, it is illegal to kill, injure, and sell individuals of this species.

The slow worm is classified as a 'Priority Species' under the UK Biodiversity Action Plan (UKBAP), as it is itself a declining species, as well as a good `indicator` species.

The slow worm is also listed under Appendix III of the Bern Convention.

Common Lizard: Has suffered large declines in recent decades, mainly as a result of habitat loss. The overall effect is that viviparous lizards are now more patchily distributed and tend to occur at lower population densities. Most dispersal is through the movement of juveniles, which can rapidly colonise new habitat should it become available adjacent to a site already occupied. The availability of suitable corridors is therefore important to their dispersal and recovery.

The Reptile Habitat Management Handbook 2010 indicates:

"The long term survival of reptile populations is dependent on large areas of either continuous or connected habitat"

"Lizards and snakes in Great Britain have declined, primarily due to habitat loss, degradation and fragmentation" …..

"Reptile dispersal abilities are limited, so connectivity of habitat patches is very important. Managers should maintain connectivity, both within a site and looking beyond its boundaries. Fundamentally, managing habitats for reptiles involves maintaining areas in a mid-successional state, and providing a favourable vegetation structure at ground level. There should be abundant prey, cover from extremes of the weather, and connectivity to neighbouring habitat patches. Unlike some species, the precise floristic composition of habitats is often irrelevant to reptiles. Instead, the site's physical

structure and thermal properties are crucial". (Reptile Habitat Management Hand Book 2010)

The ecological report by ECOSA: Specific Comments

The ecological report provided by ECOSA has been prepared for Cala Homes, who are seeking to develop the site. Whilst it contains some useful information it falls short in a number of areas. This is no more than might be expected from an Ecological Report designed to meet the outcome required by developers. Specifically, the report:

- Does not provide a clear summary of the site's botanical interest and the overview outlined in para 3.2 is simplistic and misleading.

- Looks at the site in isolation and not as part of a wider network / biodiversity corridor.

- Fails to recognise or acknowledge the significant loss of grasslands within the UK and SE England and thus the relative importance of an ever smaller number of sites. This is particularly true within this Parish which has few grasslands with an extensive area of arable a fewer still which are not under reasonably intensive agricultural management. This is symptomatic of what has been described as Shifting Baseline Syndrome, or the fact that the baseline memory of the countryside on the part of each generation is from a declining, already changed countryside (ref: The Lawton Report).

- The report fails to identify that the small area of wet woodland is potentially protected by the UK Biodiversity Action Plan.

- The report fails to mention that the site is further cut by a small chalk stream running east to join the main stream. It runs through the site identified as a wet woodland and through the area mentioned as a pond, which is in fact part of the stream. In fact this stream forms an arm of the Westergate Stream which rises in the North of the parish and carries significant volumes of water in wet winters.

- The report fails to mention that grassland can also provide important feeding areas for birds such as the linnet *Carduelis cannabina* and meadow pipit *Anthus pratensis*, Barn Owl and Kestrel and bats and small mammals such as the field vole *Microtus agrestis*. The sites potential value for wintering species is not mentioned at all, but the hedgerows with Hawthorn are likely to attract species such as Redwing and Fieldfare. All important factors in establish the sites overall importance as a biodiversity corridor.

- Whist it identifies bat and reptile species it does not mention the substantial decline of these species over the past 50yrs and thus the significance of remaining foraging areas.

- It does not recognise that the landscape and hedgerows are part of a historic landscape pattern. The site was included in the biodiversity corridor because it represents a remnant of the pre 1847 landscape pattern with hedgerows that survive from that period. This site is the only area in the parish with an extensive area of grassland which is not intensively managed, with a largely intact historic field pattern.

- The intrinsic amenity of the site is not recognised. It is attractive and very well used by local people in a Parish dominated by arable fields which give rise to a predominately arable landscape. In addition, the location of the site within a shallow valley provides an enclosed landscape the site with an essentially rural character largely unencumbered by views of modern building or infrastructure.

Conclusions

The ECOSA report provides useful additional information to support the designation of the proposed biodiversity corridor to the East of Westergate. It also offers some examples of "potential ecological enhancement measures that could be incorporated into the design of any future development" (my underlining). Some of these measures are reasonable in themselves, but do not overcome the fundamental flaws in the report, and others are impractical or positively damaging to the biodiversity of the site.

The surveys, largely carried out four to five years ago, were designed to assess "the presence/absence of protected species and important habitats at the site", rather than its potential role as corridor or its overall habitat value.

Any future development of the site would demand breaching the tree and hedgerow boundaries which demand protection (and the ECOSA report identifies that they do require protection). The integrity of a biodiversity corridor is fundamentally important to its role as a corridor. Any significant breach, such as a road, would affect the existing role of these linear features as corridors for wildlife and undermine their future potential. At present, and even with the inclusion of the field margins suggested by the ECOSA report, these features are too narrow to provide of themselves adequate and meaningful biodiversity corridors. This is particularly the case within the context of this parish, where proposed biodiversity corridors are elsewhere constrained in parts more than would be desirable.

The ECOSA report only deals with the site's ecology and the ecology of this one site, which means it contains three further fundamental flaws:

1. It provides a separate commentary of various species but does not provide a coherent overview of their importance in the UK context. Nor does it provide a wholly accurate description of the wildlife interest of the site in the context of a biodiversity corridor.

   As indicated in the Habitat Statement included in Biodiversity: the UK Steering Group Report, Vol 2 (1995): *unimproved neutral grassland habitat has undergone a remarkable decline in the 20th century, almost entirely due to changing agricultural practice. It is estimated that by 1984 in lowland England and Wales, semi-natural grassland had declined by 97% over the previous 50 years to approximately 0.2 million ha. Losses have continued during the 1980s and 1990s, and have been recorded at 2 -10% per annum in some parts of England.*

   Agricultural intensification has led to the extensive development of nutrient-demanding, productive Lolium perenne grasslands. These are managed for grazing and also sileage production which has widely replaced traditional hay-making. Where fertiliser input is relaxed or in swards which have only been partially improved, Lolium - Cynosurus grassland is common; in many respects this is intermediate between improved and unimproved lowland neutral grasslands but has few uncommon species and is generally of low botanical value.

   There has been a significant loss in the area of semi-natural Grassland within the UK since 1945, with losses of around 90% in the UK's lowlands. Currently, only 2% of the UK's grassland area comprises high diversity (Biodiversity Action Plans (BAP) priority habitat) Semi-natural Grassland.

   Also since the Second World War, Semi-natural Grassland sites have become increasingly fragmented and isolated among intensively managed agricultural land (Burnside *et al* 2003). As a result, patch sizes of Semi-natural Grasslands,

particularly in the lowlands, are now small. Consequently the chances of constructing meaningful biodiversity/ green corridors by including only herb rich semi natural grassland is vanishingly small, particularly in a predominantly arable landscape. The biodiversity opportunity presented by this site is therefore particularly important.

2. Secondly, the report misinterprets the species composition of the grassland, referring to it as being dominated by Rye Grass and Timothy. This is not the case. The fields have tumbled down back to grassland following a period of arable production so the grass land is not a sown agricultural sward. Such habitats are becoming increasingly valuable for wildlife as other grassland habitats are lost.

3. Thirdly, the report judges the grassland only on the basis of its botanical composition and not in the wider context of providing a habitat for other species for foraging and dispersal which are functions of a biodiversity corridor.

   For example, Barn Owl and Kestrel utilise rough grassland for foraging. Indeed the best foraging habitat for Barn Owls is open, rough, tussock grassland because it provides a lot more cover for field voles.

   Bat species use the hedgerow edges for foraging and navigation. They do not naturally cross open grassland so it is unsurprising that they are recorded adjacent to the hedgerows. Slow worm and grass snake will utilise rough grassland. Slow worms spend the majority of time in deep vegetation or underground in humid, overgrown areas of rough grassland, woodland edges, heath scrub.

In the context of the parish of Aldingbourne these grasslands are all the more important due to the impending loss of two other significant grassland areas at Nyton Nurseries and Hook Lane, which have been lost to housing development on Appeal. (Note: the Inspector required the grassland adjacent to the chalk stream at Nyton Nurseries to be protected as a foraging area for bats. This is indicative of the potential for regard to be given to the biodiversity of this site too).

This Parish Council report highlights the extensive reduction and fragmentation of grassland habitat and catastrophic reduction in biological diversity.

Conservation and Planning policy in the UK has recognised that isolated sites need to be connected by wildlife/biodiversity corridors in order to provide adequate opportunity for feeding and movement of species.

Grassland, including Rough Grassland Semi-natural Grassland is, a fluid habitat which can be readily managed to improve its conservation role and conserve its intrinsic biodiversity.

The fragmentation of Semi-natural Grasslands into small, isolated sites is a major issue threatening the retention of grassland and the possible local extinction of plants and animals. Therefore, conservation planning requires the restoration of Semi-natural Grassland habitats and the creation of linked networks of Semi-natural Grasslands (e.g. the European Ecological Network and The Wildlife Trusts' 'Living Landscapes'). The UK BAP has ambitious restoration targets for Semi-natural Grassland.

The arable field may on the face of it present less biodiversity interest than the rest of this site. However, in addition to its landscape role previously mentioned, its presence within the biodiversity corridor provides an opportunity to avoid so reducing the width of the corridor at its southern end that the corridor is effectively unable to serve its purpose. Furthermore the field margins and different habitat potentially offer some marginal contribution to the biodiversity of the site as a whole.

The conclusions to the ECOSA report are inane and illogical, having not addressed the wider context, and the final sentence is plainly wrong. The site represents an important local landscape with a clearly identified historic landscape pattern. As a whole the site is ecologically interesting, the grasslands are not species rich but they are not simple species poor grass leys as suggested by the ECOSA report.

The development of the fields would completely negate the concept of identifying the corridor as a biodiversity / green corridor. The idea that you could develop the fields and leave the boundary features as effective wildlife corridors is unworkable.

The timely management of scrub and hedgerow would be welcome. Timely cutting and removal of herbaceous vegetation around the site would do much to enhance species diversity. Seeding with wildflower mix / plug planting would in practice achieve little across the site.

I therefore recommend the whole site remain in the biodiversity corridor.

Martin Beaton,
B Sc (Hons, Botany), M.Sc. (Landscape Ecology), ALIM.
Chairman, Aldingbourne Parish Council.

12th July 2016

Latin Name	Common Name		
Equisetaceae	**Horsetail Family**		
Equisetum arvensis	Field Horsetail		
Dryopteridaceae	**Buckler fern Family**		
Dryopteris filix-mas	Male Fern		
Ranunculaceae	**Buttercup Family**		
Ranunculus acris	Meadow Buttercup		
Ranunculus bulbosus	Bulbous Buttercup		
Ranunculus ficaria	Lesser Celendine		
Ranunculus repens	Creeping Buttercup		
Clemitas vitalba	Traveller's-joy		
Helleborus viridis	Green Hellebore		
Ulmaceae	**Elm Family**		
Ulmus procera	English Elm		
Cannabaceae	**Hop Family**		
Humulus lupulus	Hop		
Urticaceae	**Nettle Family**		
Urtica dioica	Nettle Family		
Fagaceae	**Beech Family**		
Quercus robur	Pedunculate oak		
Betulaceae	**Birch Family**		
Alnus glutinosa	Alder		
Corylus avellana	Hazel		
Caryophyllaceae	**Pink Family**		
Stellaria graminea	Lesser Stichwort		
Cerastium			
Polygonaceae	**Knotweed Family**		
Persicaria amphibia	Amphibious Bistort		
Rumex acetosa	Common Sorrel		
Rumex conglomeratus	Clustered Dock		
Rumex sanguineus	Wood Dock		
Rumex obtusifolius	Broadleafed Dock		
Clusiaceae	**St John's-wort Family**		
Hypericum perforatum	Perforate St John's-wort		
Malvaceae	**Mallow Family**		
Malva moschata	Musk-mallow		
Malva sylvestris	Common Mallow		

Cucurbitaceae	**White Bryony Family**		
Bryonia dioica	White Bryony		
Salicaceae	**Willow family**		
Salix fragilis	Crack Willow		
Brassicaceae	**Cabbage Family**		
Alliaria petiolata	Garlic Mustard		
Coronopus didymus	Lesser Swine Cress		
Nasturtium officinale	Water Cress		
Sisymbrium officinale	Hedge Mustard		
Cardamine flexuosa	Wavey Bitter Cress		
Primulaceae	**Primrose Family**		
Anagallis arvensis	Scarlet Pimpernel		
Rosaceae	**Rose Family**		
Potentilla reptans	Creeping Cinquefoil		
Prunus spinosa	Blackthorn		
Rosa arvensis	Field Rose		
Filipendula ulmaria	Meadowsweet		
Rubus fruticosus agg	Bramble		
Geum urbanum	Herb Bennet		
Fabaceae	**Pea Family**		
Lathyrus pratensis	Meadow Vetchling		
Trifolium pratensis	Red Clover		
Vicia tetrasperma	Smooth Tare		
Medicago lupulina	Black medick		
Lythraceae	**Purple-loosestrife Family**		
Lythrum salicaria	Purple-loosestrife		
Onagraceae	**Willowherb Family**		
Epilobium hirsutum	Great Willowherb		
Epilobium parviflorum	Hoary Willowherb		
Epilobium obscurum	Short Fruited Willowherb		
Cornus sanguinea	Dogwood		
Convolvulaceae	**Bindweed Family**		
Calystegia sepium	Hedge Bindweed		
Oleaceae	**Ash Family**		
Fraxinus excelsior	Ash		
Euphorbiaceae	**Spurge Family**		

Mercuralis perennis	Dog's Mercury		
Euphorbia heliscopia	Sun Spurge		
Euphorbia peplus	Petty spurge		
Aceraceae	**Maple Family**		
Acer pseudoplatanus	Scycamore		
Acer campestre	Field Maple		
Geraniaceae	**Crane's-bill Family**		
Geranium disectum	Cut leved Cranesbill		
Araliaceae	**Ivy Family**		
Hedera helix	Ivy		
Apiaceae	**Carrot Family**		
Apium nodiflorum	Fools-water-cress		
Chaerophyllum hirsutum	Hairy Chervil		
Oenanthe crocata	Hemlock Water-dropwort		
Daucus carota	Wild Carroty		
Heracleum sphondylium	Hogweed		
Anthriscus syvestris	Cow Parsley		
Silaum silaus	Peper Saxifrage		
Solanaceae	**Nightshade Family**		
Solanum dulcamara	Bittersweet		
Convolvulaceae	**Bindweed Family**		
Convolvulus arvensis	Field Bindweed		
Calystegia ???			
Boraginaceae	**Borage Family**		
Myosotis scorpioideas	Water Forget-me-not		
Myosotis arvensis	Field Forget-me-not		
Symphytum officinalis	Common Comphrey		
Lamiaceae	**Deadnettle Family**		
Ajuga reptans	Bugle		
Ballota nigra	Black Horehound		
Lamium purpureum	Red Dead Nettle		
Mentha aquatica	Water Mint		
Stachys sylvatica	Hedge woundwort		
Callitrichaceae	**Water starworts**		
Callitriche obtusangula	Blunt Fruited Waterstarwort		
Plantaginaceae	**Plantain Family**		
Plantago major	Greater Plaintain		
Plantago lanceolata	Ribwort Plaintain		

Scrophulariaceae	**Figwort Family**		
Scrophularia auriculata	Common Figwort		
Veronica anagallis-aquatica	Blue Waterspeedwell		
Veronica beccabunga	Brooklime		
Veronica persica	Common Field Speedwell		
Kickxia elatine	Sharp-leved Fluellen		
Rubiaceae	**Bedstraw Family**		
Galium aparine	Cleavers		
Caprifoliaceae	**Honeysuckle Family**		
Sambucus nigra	Elder		
Lonicera caprifolium	Honysuckle		
Asteracea	**Daisy Family**		
Matricaria chamomilla (=recutita)	Scented Mayweed		
Matricaria discoidea (=matricarioides)	Pinapply Mayweed		
Tripleurospermum indorum	Scentless Mayweed		
Lactuca serriola	Prickly Lettuce		
Lapsana communis	Nipplewort		
Achillea millefolium	Yarrow		
Discoreaceae	**Black Bryony Family**		
Tamus communis	Black Bryony		
Juncaceae	**Rush Family**		
Juncus inflexus	Hard Rush		
Juncus conglomeratus	Compact Rush		
Luzula campestris	Field Wood Rush		
Cyperaceae	**Sedge Family**		
Carex pendula	Pendulous Sedge		
Carex sylvatica	Woodland Sedge		
Carex remota	Remote Sedge		
Carex remota	Remote Sedge		
Carex flacca	Glaucous Sedge		
Carex hirta	Hairy Sedge		
Carex otrubae	False Fox Sedge		
Carex spicata	Spiked Sedge		
Poaceae	**Grass Family**		
Agropyron repens	Common Couch		
Agrostis stoloniofera	Creeping Bent Grass		
Agrostis gigantea	Black Bent Grass		
Alopecurus geniculatus	Meadow Foxrtail		
Bromus sterilis	Sterile Brome		
Bromus erectus	Upright Brome		

Dactylus glomerata	Cock's Foot		
Phragmites australis	Common Reed		
Phleum pratensis spp pratensis	Timothy		
Phleum pratensis spp bertolonii	Smaller Cat's Tail		
Poa trivialis	Rough Meadow Grass		
Poa annua	Annual Meadopw Grass		
Poa pratensis	Smooth Meadow Gras		
Festuca rubra	Red Fescue		
Festuca gigantea	Giant Fescue		
Festuca arundinacea	Tall Fescue		
Glyceria fluvitans	Floating Sweet Grass		
Glycera maxima	Reed Sweet Grass		
Holcus lanatus	Yorkshire Fog		
Hordenn murinum	Wall Barly		
Hordenn sacalinum	Meadow Barly		
Lolium perenne	Perennial Rye Grass		
Lolium multiflorum	Italian Rye Grass		
Melica uniflora	Wood Melick		
Sparganiaceae	**Bur-reed Family**		
Sparganium erectum	Branched Bur-reed		
Iridaceae	**Iris Family**		
Iris pseudacorus	Yellow Iris		
Note - Families / Species based on Stace Third edition. Genera in alphabetical order			
Bryophytes	**Mosses**		
Fissidens exilis	Slender Pocket Moss		
Lunularia crucinata	Crested Cup Liverwort		
Insecta			
Lepidoptera	***Buterflies and Moths***		
Ochlodes ventus	*Large Skipper*		
Maniola jurtina	*Meadow Brown*		
Xanthorhoe fluctuate fluctuate	*Green Carpet Moth*		
Epirrhoe alternata	*Common Carpet*		
Cyclopora linearia	*Clay Triple Lines*		
Cerura vinula	*Puss Moth*		
Autographa gamma	*Silver Y*		
Callitearea pudiunda	*Pale Tussock*		
Diarsia brunnea	*Purple Clay*		

Odonta	**Dragonflies**		
Ischnura elegans	*Blue-tailed Damselfly*		
Birds			
Prunella modularis	Dunnock		
Passer domesticus	House Sparrow		
Carduelis cannabina	Linnet		
Turdus philomelos	Song Thrush		
Turdus merula	Blackbird		
Troglodytes troglodytes	Wren		
Sylvia communis	Whitethroat		
Emberiza citrinella	Yellow Hammer		
Erithacus rubecula	Robin		
Parus caeruleus	Blue Tit		
Parus major	Gret Tit		
Parus ater	Coal Tit		
Fringilla coelebs	Chaffinch		
Carduelis chloris	Green finch		
Carduelis carduelis	Goldfinch		
Sylvia atricapilla	Black Cap		
Tyto alba	Barn Owl		
Falco tinnunculus	Kestral		
Mammals			
	Field Vole		
Pipistrelllus pipistrellus	Pipistral Bat		
Pipistrellus pygmaeus	Soprano Pipistral		
Nyctalus noctulas	Noctule		
Eptesicus serotinus	Serotine		
Myotis spp	Needs clarification		
Plecotus spp	Needs clarification		
Reptiles			
Anguis fragilis	Slow Worm		
Zootoca vivipara	Common Lizard		
Spiders			
Pisaura mirablis			
Fish			
Gasterosteus aculeatus	Three-spined Stickelback