ARUN DISTRICT COUNCIL
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GPM ECOLOGY
10 Bartholomew Close
Haslemere, Surrey, GU27 1EN
[redacted]

David Kay
Hall Hunter Partnership
Heathlands Farm, Honey Hill
Wokingham, RG40 3BG

7th June 2011

Dear David

Biodiversity survey – Jack's Dyke, Groves Farm, Oving

I have detailed below a biodiversity assessment for the site at Jack's Dyke on Grove's Farm.

1.0 INTRODUCTION

Hall Hunter Partnership (HHP) are soft fruit growers seeking permission to construct 12ha of poly-tunnels at Jack's Dyke, Groves Farm, Oving north-west of Bognor (SU 910 015 - see **Figure 1**). General Manager of HHP, David Kay, commissioned GPM Ecology to conduct an ecological assessment of the site to support the planning application. The site is currently used for arable (about 15ha in area) and surrounded on all sides by seasonal drainage ditches or streams, which run into the Elbridge Rife. Arun District Council Environment Statement Request (14th September 2010) states:

> The above Schedule 2 development has the potential to impact on the environment in such a manner as is covered by the Town and Country Planning (Environmental Impact Assessment)(England and Wales)(Amendment) Regulations 1999 and subsequent amendments. In particular, there is potential to impact on the following:
>
> (a) the landscape quality of the area, including the South Downs National Park
> (b) the hydrology of the area
> (c) the biodiversity of habitats, including grassland and ditches, and protected species

1.1 Legislation

A number of endangered but widespread species (including bats, great crested newt and water voles) are protected from disturbance and harm, through the Wildlife & Countryside Act (WCA) 1981 (as amended), The Countryside & Rights of Way (CRoW) Act 2000 and The Conservation (Natural Habitats, &c) Regulations 1994 as amended. The Wildlife and Countryside Act 1981 also provides protection to species such as widespread reptiles protected from harm only and birds which are protected on the nest. Sites with statutory protection through the WCA 1981, CRoW Act 2000 and Conservation Regulations 1994, include Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC) and Special Protected Areas (SPA). Other relevant legislation includes the Hedgerow Regulations 1997, which affords protection to important hedgerows in the Countryside, the badger and its sett are protected from disturbance and

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harm through the Protection of Badgers Act 1992 and the Wild Mammals (Protection) Act 1996 relates to the cruelty and mistreatment of wild mammals.

1.2 Planning Guidance

Planning Policy Statement (PPS9[1]) provides guidance to Councils to ensure that protected species, statutorily and non-statutorily protected sites (such as Sites of Importance for Nature Conservation, SINC) are considered during the planning process. PPS9 states in relation to opportunities for biodiversity as part of good design, that '*Local Planning Authorities should maximise such opportunities in and around developments, using planning obligations where appropriate*' (PPS9[1] page 7, para.14). In relation to Protection of Species (para.16) PPS9 goes on to state that Priority BAP species, not otherwise provided with legal protection, should also be protected from the adverse effects of development.

1.3 Biodiversity Action Plans

The CRoW Act 2000 requires government departments to have regard towards conserving biological diversity and to promote the actions required to further the conservation of Priority Biodiversity Action Plan (BAP) Species and Habitats[2], as revised in 2008. These include habitat features such as native hedgerows and priority species such as Water Vole.

2.0 METHODOLOGY

2.1 Biological Records Search

Biological record searches provide information of potential ecological issues that maybe present adjacent to or on a given development site. They should not be viewed as definitive, for ecological issues are generally dynamic in both space and time, and record centres do not hold complete records. They can however be useful at highlighting important issues at an early stage in the decision process on a given development site. A search for biological records within 1km of the site was conducted by liaising through:

- Sussex Biological Record Centre (SBRC) for location of Sites of Nature Conservation Importance (SNCI) non-statutorily designated sites of local conservation interest, as well as protected species within 500m of the site.
- Natural England for information on statutorily designated sites of European and National importance, such as SAC and SSSI through their web site (see **Appendix I**).

In addition first edition OS Maps were viewed and the current land-manager was questioned on countryside stewardship.

2.2 Ecological assessment and evaluation

The ecological assessment of the site follows guidelines based on guidance for habitat evaluation produced by the Institute of Ecology and Environmental Management (IEEM 2006)[3]. The methodology for the habitat survey is based upon the guidelines published by JNCC (1993)[4], which is extended to cover protected species. Extended Phase I habitat surveys provide baseline information for the identification of ecological features on site.

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[1] Planning Policy Statement 9: Biodiversity and Geological Conservation, Office of the Deputy Prime Minister 2005
[2] UK Biodiversity Action Plan: Priority Habitats Descriptions. (BRIG ed. Ant Maddock) 2008
[3] IEEM (Institute of Ecology and Environmental Management). (2006). Guidelines for Ecological Impact Assessments in the UK - Approved version 26 June 2006
[4] JNCC (1993). Handbook for Phase 1 habitat survey – A technique for environmental audit. JNCC, Peterborough

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The following list summarises the geographical framework by which an ecological feature is evaluated: International; National; Regional; County or Metropolitan; District or Borough; Local, Parish or Neighbourhood; within zone of influence only or site. Unless stated otherwise it can be assumed that an ecological feature has been evaluated within the zone of influence only. The value of a feature is also assessed by: Designated Sites or Features; Biodiversity; Potential Value; Secondary or Supporting Value; Social Value and Economic Value; Legal Issues; Multifunctional Features. See IEEM guidelines (2006[3]) for more information.

2.3 Protected Species Assessment

The site was assessed to determine the potential for the following protected species:

- **Badgers**: Badger sett entrances and any other evidence of activity were recorded
- **Reptiles and amphibians**: Potential for presence assessed
- **Breeding birds**: The potential for birds to breed on the site
- **Bats**: Potential for trees to support bat roosts

3.0 ECOLOGICAL ASSESSMENT AND EVALUATION

3.1 Biological Records

The Record Centre (SBRC, see **Appendix 1**) and Natural England website confirm the search area supports no national or international statutorily protected sites (such as SSSI, SPA and SAC) or Sites of Nature Conservation Importance (SNCI) non-statutory. SBRC holds the following records of water vole *Arvicola terrestris* for the area, all of which are at least 1km north of the application site:

Grid Reference	Recorder	Date	Locality
SU8000024	Recorder @ MWHG	29/10/2009	Groves Farm, WVS Site 37, Merston
SU8004502469	Frances Southgate	01/10/2007	Groves farm, Chichester, Chichester CP
SU8013002251	Frances Southgate	01/10/2007	Groves farm, Chichester, Chichester CP
SU803029	Oscar Willett	23/07/2007	Groves Farm, Chichester, Chichester CP
SU8036302306	Frances Southgate	01/10/2007	Groves farm, Chichester, Chichester CP
SU8058502371	Frances Southgate	01/10/2007	Groves farm, Chichester, Chichester CP
SU8081902240	Frances Southgate	01/10/2007	Groves farm, Chichester, Chichester CP
SU8105502581	Frances Southgate	01/10/2007	Groves farm, Chichester, Chichester CP
SU8160202442	Frances Southgate	01/10/2007	Groves farm, Chichester, Chichester CP
SU8200	Anon	1967	Aldingbourne Rife, West Sussex (VC13)
SU8240028	Recorder @ MWHG	22/04/2009	Aldingbourne Rife, Colworth, WVS Site 48
SU8250029	Recorder @ MWHG	23/04/2009	Aldingbourne Rife, Colworth, WVS Site 50

Slow-worm *Anguis fragilis* has been recorded within suburban locations around Bognor, over 1km south-east of the site. Brown Hare *Lepus europaeus* (SU924025 Recorder @ MWHG 22/04/2009 Aldingbourne Rife, Colworth, WVS) has been recorded about 1km north of the site and residents living at the dog kennels adjacent to the site have observed hare on the application site at Jack's Dyke.

Bird records of interest (BAP species and red listed birds of conservation concern in 2009), within 1km[2] search area of the site (SU9000 to SU9202) include:

1. Birds of arable field (4 species) - Grey Partridge *Perdix perdix* (two records for the area from 2006), is a resident species associated with arable and once widespread in the South Downs. Corn Bunting *Emberiza calandra* (seven records from 1993 to 2006), a resident species dependant on arable land, especially barley, has recently suffered

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dramatic population decline in UK. Sky Lark *Alauda arvensis* (14 records between 2006 and 2009), a resident, passage migrant and winter visitor, associated with open lowland farm landscape. Northern Lapwing *Vanellus vanellus* (11 records from 1990 to 2009) a scarce breeder and widespread winter visitor in Sussex, associated with mixed farmland and wetland habitats.

2. Birds of hedge and scrub habitat (5 species) - Common Linnet *Carduelis cannabina* (nine records from 2004 to 2009), Common Bullfinch *Pyrrhula pyrrhula* (14 records from 2007 to 2009) and Yellowhammer *Emberiza citrinella* (12 records from 2004 to 2009) are species associated with hedges and thought to have declined due to loss and lack of management to farmland hedges. European Turtle Dove *Streptopelia turtur* (three records in 2008 and 2009), a summer visitor confined to South and East England, where it breeds in scrub and low trees, often in hedges associated with fertile arable fields in dry, warm situations. Hedge Accentor *Prunella modularis* (25 records between 2007 and 2009) a very common resident associated with dense scrub in a wide variety of situations, is a BAP species of amber conservation concern.

3. Ditch / wetland habitat - Reed Bunting *Emberiza schoeniclus* (seven records from 1990 to 2009), a resident species associated with wetland habitats, but recently has become more widespread on farmland, having suffered dramatic population decline in UK.

4. Birds associated with a wide variety of habitats (3 species) - House Sparrow *Passer domesticus* and Common Starling *Sturnus vulgaris* are both common birds undergone large declines in recent year, with 17 and 14 records (respectively) between 2006 and 2009. Song Thrush *Turdus philomelos*, a resident and partial migrant, that has undergone massive (73%) declines within the farmland landscape during recent years, with 23 records between 2007 and 2009.

The western half of the site is illustrated as flood-plain grassland in the SBRC report (see **Appendix 1**: Habitat Map, pg 54).

3.2 Site History

Earliest edition OS Maps from 1875 (www.old-maps.co.uk) illustrate the site with the same boundaries as today, but split into four fields as opposed to one large field today. From 1875 until the 1960s the field retains this layout with an access track cuts across the top two fields linking up to Park Farm, but by 1973 it consists of two fields with a drain running down the centre of the site north to south, in line with the tree and ditch line (see **Photo 2**) that was observed encroaching into the field from the southern boundary. This drain down the centre of the site is shown on **Figure 1** (1908 OS map), but is no longer present and is not on current maps (www.ordnancesurvey.co.uk/oswebsite/getamap/).

3.3 Plant Communities

A walk-over extended phase 1 survey was conducted on 21st January 2011. The site supports three distinct habitat types (see **Figure 2**), present at time of survey:

- Hedges, trees and scrub
- Arable
- Grassland field margins

3.3.1 Hedge, trees and scrub

A hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees and shrubs are less than 20m wide

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(Rackmore 2002[5]). All hedgerows consisting predominantly of at least one UK native species are covered by the Hedgerow BAP (BRIG ed. Ann Maddock 2008[6] p32). Hedgerow Regulations 1997 protect 'Important' hedgerows from being removed both on ecological grounds where hedge are rich in biodiversity and where they represent historical or landscape features, such as along historical parish boundaries. The western hedge runs parallel with Bersted Civil Parish boundary (which is also marked on 1876 boundaries), while the northern hedge runs parallel with Arun District Council's boundary.

The field boundary supports over 1.8km of hedge and ditch, of varying state. The hedges around the site generally support hawthorn *Crataegus monogyna* and hazel *Corylus avellana* are considered a Priority BAP Habitat, an ecological feature of Parish value (on account of its age, structure, species composition and potential to support farmland bird species) and some sections may meet the criteria for an 'Important' hedgerow.

Mature oak *Quercus robur* (with owl boxes attached) and field maple *Acer campestre* standards grow in the north eastern corner of the site boundary, under-planted with young hazel, hawthorn and field maple saplings grown beneath. The north western site boundary supports an intact mature section of hedge supporting ash *Fraxinus excelsior*, hawthorn, hazel and field maple. A seasonal rife with banks 2m high, but only 10cm depth of water flowing at the time of the visit, runs parallel along the northern side of this hedge supporting Hemlock Water-dropwort *Oenanthe crocata*. This section of rife supported the greatest depth of water observed along all ditches on site.

Sections of the western boundary length of hedge is defunct, with large gaps of bramble (see **Photo 1**), with elm *Ulmus* spp. die-back in places. Several ash standards are located along the western boundary, along with walnut *Juglans regia*, willow *Salix* spp and dogwood *Cornus sanguinea*. The hedge also supports Traveller's-joy *Clematis vitalba* along this section. The rife runs parallel along the south-west side of the hedge, with fool's water-cress *Apium nodiflorum* observed growing in the northern section of the ditch.

The southern boundary supported a dense very mature hedge, with several oak standards, butcher's-broom *Ruscus aculeatus* present and a finger of former hedge-line growing into the field, supporting mature oak, field maple and hawthorn standards (see **Photo 2**), with Traveller's-joy climbing the trees and an understorey of bramble, ivy *Hedera helix* and nettles *Urtica dioica*, which grew in pockets across much of the site. The ditch along the north side of the hedge-line was dry, though a small pond was located in the centre of the hedge, with no obvious macrophytes and 40cm depth of water.

The eastern site boundary supported a hawthorn and hazel hedge with no standards and gaps (covered with brambles) in the middle sections. The ditch running parallel along the eastern side of the hedge had very little flow. Elder *Sambucus nigra*, rose *Rosa* spp, Hart's tongue *Phyllitis scolopendrium* and buckler fern *Dryopteris* spp grew along this hedge.

3.3.2 Arable

The vast majority of the site is composed of a 12-14ha of arable field, and at the time of the survey had a very young crop germinating. *The field has been in lettuce, celery and wheat cultivation over the last few years* (David Kay pers comm.). The northern and western field margins are maintained as field verge (5m – see next section on grassland verge), but not

[5] Department for Environment, Food and Rural Affairs 2002, Hedgerow Survey Handbook, a standard procedure for local surveys in the UK, by Catherine J. Rackmore.

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specifically as arable field margins and thus not considered currently to support a Priority BAP habitat and this feature is considered of site value only.

3.3.3 Grassland verge

Along the western and northern boundaries of the site is a 3 to 5m wide grassland strip, due to the proximity with a flowing rife. The grassland along the northern boundary supported species poor rank false-oat grass *Arrhenatherum elatius* and cocks-foot *Dactylis glomerata* sward, becoming more diverse with a greater range of forbs to the west: willowherb *Epilobium* spp, broad-leaved dock, cleavers *Galium aparine*, dove's-foot crane's-bill *Geranium molle*, field bindweed *Convolvulus arvensis*, ground-ivy *Glechoma hederacea*, creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, ribwort plantain *Plantago lanceolata*, creeping buttercup *Ranunculus repens*, smooth sow-thistle *Sonchus oleraceus*, grounded *Senecio vulgaris*, dandelion *Taraxacum* agg., St. John's-wort *Hypericum* spp, clover *Trifolium* spp, yarrow *Achillea millefolium*, bristly oxtongue *Picris echioides*, common mouse-ear *Cerastium fontanum*, teasel *Dipsacus fullonum*, hogweed *Heracleum sphondylium*, pendulous sedge *Carex pendula* and bracken *Pteridium aquilinum*.

The western boundary appeared to support calcareous species, with chalk deposits evident within the banks of the rife in the northern corner of the site (see **Photo 1**). Calcareous species included false brome *Brachypodium pinnatum* and musk thistle *Carduus nutans* as well as Traveller's-joy within the hedge. The sward grassland supports brome *Bromus* spp and bent-grasses *Agrostis* spp., with species such as scentless mayweed *Tripleurospermum inodorum*, common field-speedwell *Veronica persica*, charlock *Sinapis arvensis* in more disturbed parts of the grass-verge and stands of tall herbs such as common knapweed *Centaurea nigra*, lesser burdock *Arctium minus* sens. lat, common fleabane *Pulicaria dysenterica*, with hedge woundwort *Stachys sylvatica* growing within the hedge. No notable or rare species were observed, however the survey was conducted in winter and the grass-strip support species indicative of chalk substrate. Currently it is not known what the value of the grassland is as an ecological feature until further surveys are conducted in an appropriate time of year. It should however be noted that the grassland strips are to be maintained within the proposed development.

3.4 Potential for bats

Mature oak and ash trees located along the site boundary and mature trees growing within a finger of remnant hedge along the southern site boundary (see **Figure 2** and **Photo 2**) have potential to support a bat roost. If these features are used as a bat roost they would receive protection under the WCA 1981 and Habitats Directive 1994. It is not however envisaged that these features will be disturbed by the proposed development.

3.5 Presence of mammals on site

The water-courses are considered too shallow / seasonal to support water vole, though could be used as an occasional winter refuge. No evidence of current badger activity was observed within the site, though fox and deer tracks were observed in the south eastern corner of the site, across a mammal path and a further mammal path was observed across the middle of the eastern side boundary. The owner of the adjacent dog kennels has observed brown hare *Lepus europaeus* on the site.

3.6 Potential for reptiles and amphibians

The site supports very limited potential for reptiles, on account of the lack of shelter and cover, although reptiles such as grass snake *Natrix natrix* could utilise the grassland verge, bramble scrub and ditch along the western and northern boundaries, protected from harm

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under the WCA 1981. There are no ponds in the vicinity of the site and the pond along the southern boundary is considered too small and seasonal to support great crested newt *Triturus cristatus*, which were not recorded by SBRC.

3.7 Birds

The mature trees, hedges and scrub around the site boundary provide breeding habitat for birds. Species recorded during the survey include chaffinch *Fringilla coelebs*, wren *Troglodytes troglodytes* robin *Erithacus rubecula*, song thrush *Turdus philomelos*, blackbird *T. merula*, great tit *Parus major*, blue tit *Cyanistes caeruleus*, long-tailed tit *Aegithalos caudatus*, carrion crow *Corvus corone*, wood pigeon *Columba palumbus* and kestrel *Falco tinnunculus* were observed on or around the site. At the time of the survey the arable field did not appear to be used as an over-wintering roost or feeding site, with no flocks of waders or waterfowl observed.

However, the SBRC desk-study recorded a wide range of BAP and red-listed farmland birds within about 1km of the site, including four species associated with arable (Grey Partridge, Corn Bunting, Sky Lark and Northern Lapwing), five species associated with hedgerows and scrub (Common Linnet, Common Bullfinch, Yellowhammer, European Turtle Dove and Hedge Accentor) one species associated with wetland (Reed Bunting) and three species wide spread species associated with a wide range of habitats (House Sparrow, Common Starling and Song Thrush).

Active bird nests are protected under the WCA 1981 and thus development needs to ensure these are not disturbed. Arable birds breeding on and around the site do potentially represent an ecological feature of Parish value.

4.0 POTENTIAL IMPACTS

4.1 Features of Ecological Importance

The intact sections of hedge around the site are considered ecological features of Parish value and a Priority BAP habitat and the poly-tunnel development as shown on **Figure 3** will not impact these areas.

The value of the site is not fully-understood in relation to farmland birds and the grassland strip, until further surveys are conducted during spring / summer period. However, the grassland strip will not be directly impacted by development and will increase in area with a 5m wide grass verge to be incorporated into the east and southern margins, although the calcareous grass-strip along the west margin could be effected by inappropriate management. Farmland birds, such as skylark could be impacted if breeding in the field, although these impacts could be mitigated by sympathetic management elsewhere on the farm estate.

4.4 Protected and BAP species

4.4.1 Bats

It is understood that no trees are to be removed as a result of the development proposals, thus bats should not be impacted as a result of the development

4.4.2 Breeding Birds and Reptiles

Under the Wildlife and Countryside Act 1981 active wild birds' nests are legally protected from *damage* or *harm*. As no hedges appear to be directly impacted by development, impact upon breeding birds as a result of the development is expected to be low, although there is potential for arable bird species to breed within field margins.

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Reptiles (protected under WCA 1981) may occur within grassland strip (300m²), but due to its small size and lack of tussock growth impact upon these species is considered low.

5.0 MITIGATION

5.1 Hedgerow management

The development provides an opportunity for enhancement of landscape features and areas of defunct hedgerows, especially along the west and eastern boundaries should be re-instated and planted with native shrub species. This will improve the quality of the hedges for bird and invertebrate species.

5.2 Grassland management

Grassland verges will be managed around the site margins between the poly-tunnels and hedges to improve biodiversity on site. However, the grassland along the western margins is recommended for further botanical surveys to asses its importance as an ecological feature. This survey will provide an input into the enhancement and management of these grassland verges.

5.3 Arable management for birds

The current grass strips around the arable field are transient agricultural artefacts which come and go according to the normal agricultural rotation at the farm. A grass headland will be created and maintained as part of this development which may well create a habitat for nesting skylarks. There is some evidence of this happening on other polytunnelled areas in the vicinity. Whilst it is unlikely that there will be any ecologically significant effect on skylarks from the proposed development, the applicant plans to assess this during the first year of use of the polytunnels. Data from this assessment will be used to ameliorate any negative effects detected through the creation of alternative habitats on the estate.

5.4 Protected Species - Breeding Birds and Reptiles

Normal field cultivation for the creation of strawberry beds takes place in September and as such will have no greater effect than other arable operations already taking place on the site. It is not envisaged that any scrub clearance will take place as part of the development (telephone conversation with D.Kay). The timing of these operations will therefore minimize any potential for disturbance of nesting birds and be no worse than is currently established practice on the site.

6.0 SUMMARY OF RECOMMENDATIONS

Table 1: Summary of features, impacts and mitigation

Feature	Value	Impact	Potential Mitigation	Further Surveys
Hedge, wood bank, trees	BAP and Parish value	Low positive	Retain features and sympathetic management	Hedgerow survey if any removed
Calcareous Grass-verge	Possible Parish-Borough value	Low positive	Management of verge to benefit key species	Botanical survey during spring/summer
Arable birds	BAP species	Low negative	Management of farm estate	Further bird surveys, to assess management
Birds	Site value	Low	Timing avoid to nesting period	Survey if clearance during breeding period

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PHOTOGRAPHS OF JACK'S DYKE

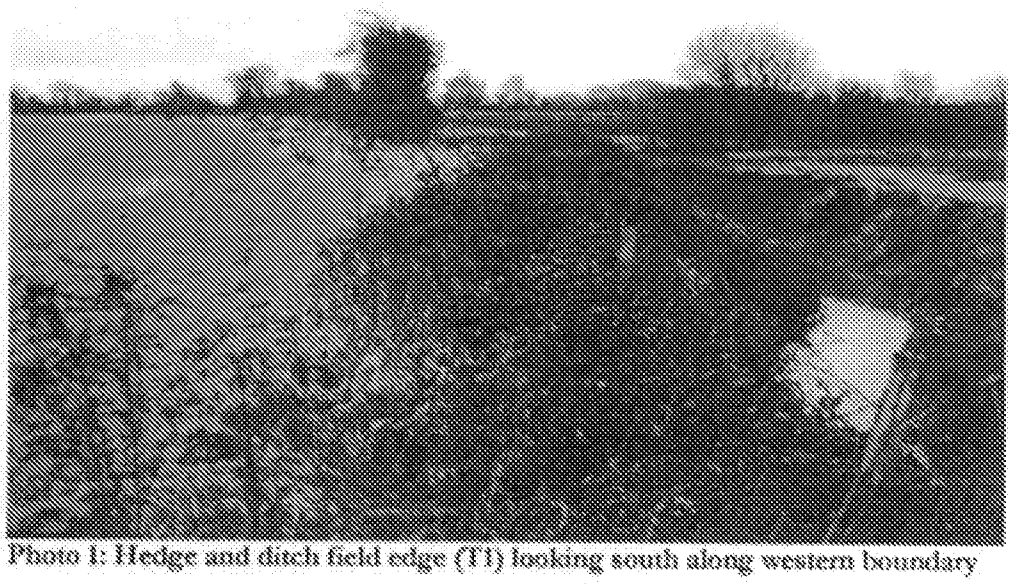


Photo 1: Hedge and ditch field edge (T1) looking south along western boundary

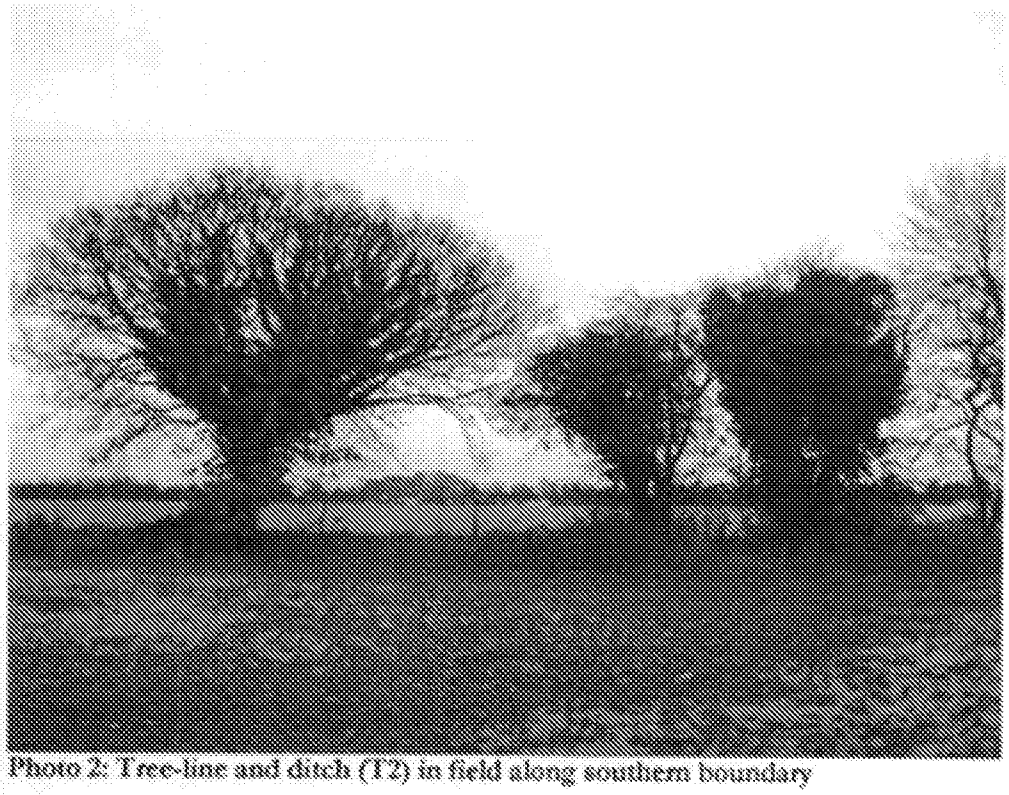


Photo 2: Tree-line and ditch (T2) in field along southern boundary

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Figure 1: Location plan
Jack's Dyke, Groves Farm
Ecological Assessment
GPM Ecology June 2011

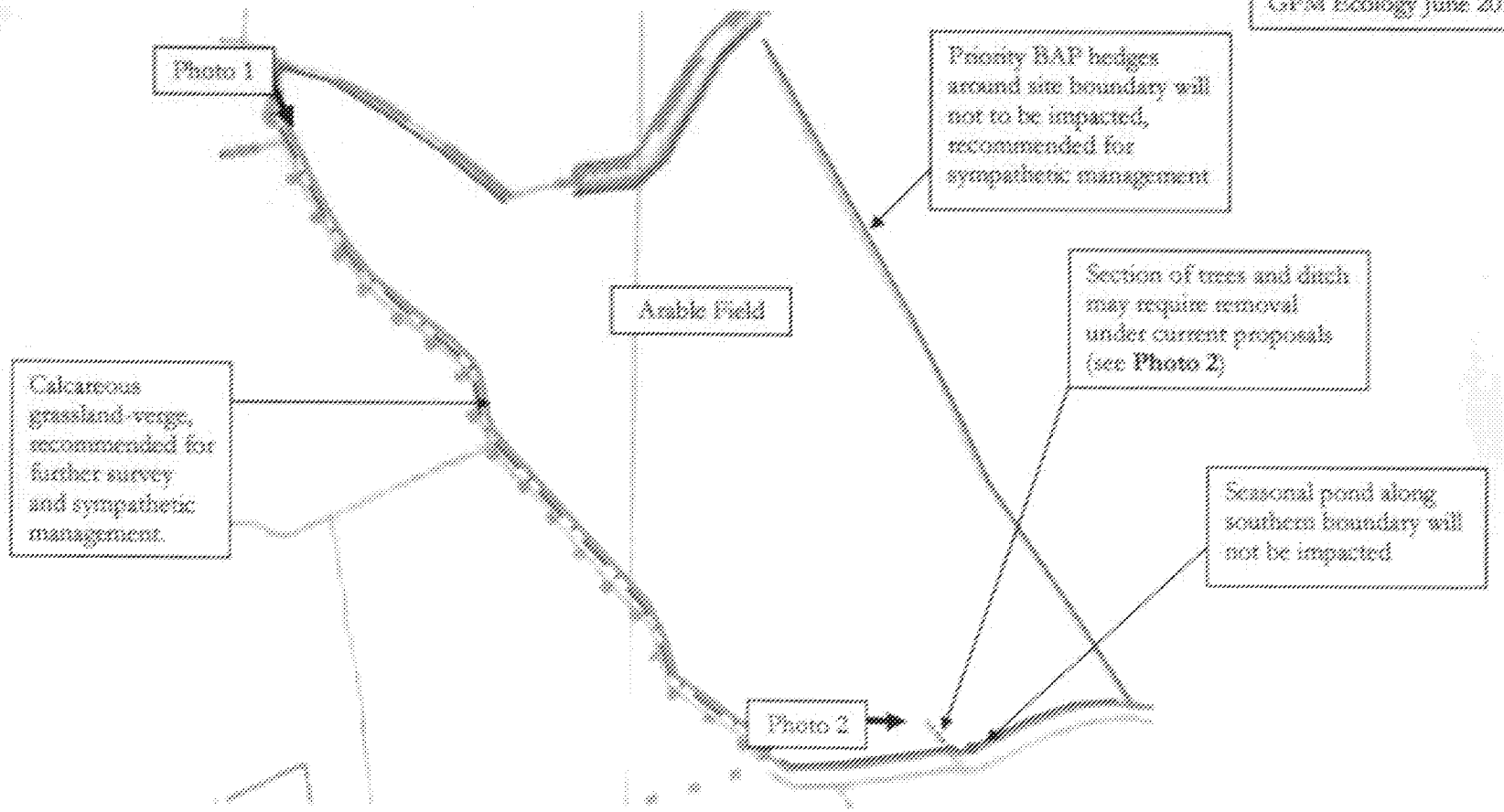


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Figure 2: Habitat Plan
Jack's Dyke, Groves Farm
Ecological Assessment
CPM Ecology June 2011



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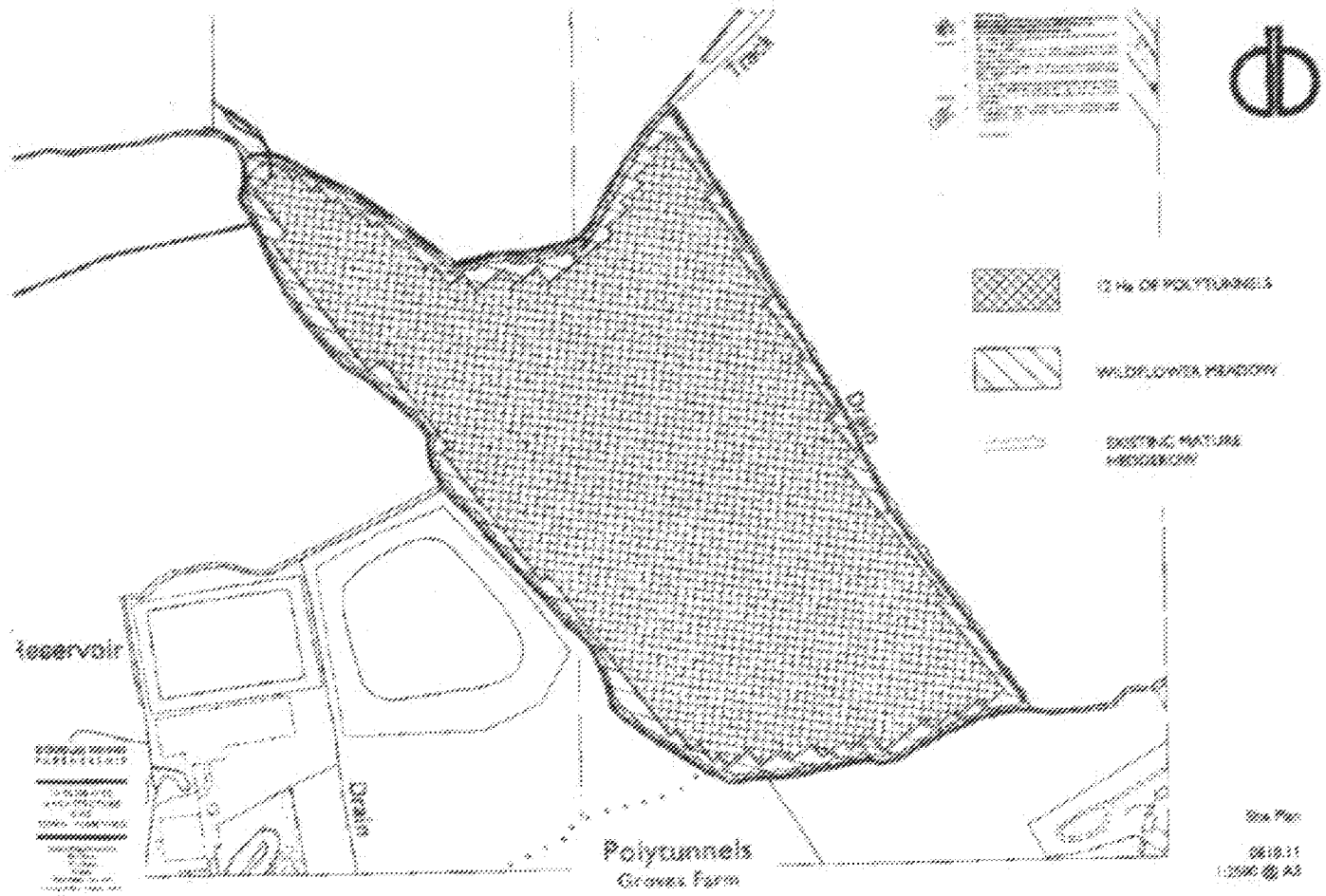


Figure 3: Mitigation Plan
Jack's Dyke, Groves Farm
Ecological Assessment
GPM Ecology June 2011