

Helene Fildes

**BUCKINGHAM CANAL,
OLD STRATFORD ARM**

ECOLOGICAL SURVEY

A Report to Buckingham Canal Society.

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BUCKINGHAM CANAL, OLD STRATFORD ARM
ECOLOGICAL SURVEY

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01 OF 02

01 BUCKINGHAM CANAL SOCIETY
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This report was conducted and compiled by
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*The contents of this report are the responsibility of Middlemarch Environmental Ltd.
It should be noted, that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment.*

Contract Number C 920

April 2002

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1. INTRODUCTION

On 30 November 2001, Buckingham Canal Society commissioned Middlemarch Environmental Ltd to conduct an ecological survey of a 1.5 km section of the Buckingham Canal in Northamptonshire: the Old Stratford Arm, which stretches from Bridge 1, 300m west of Cosgrove Lock, to where the canal meets the A5 Dual Carriageway (National Grid Reference SP 793421-SP782414). The site is part of the disused Buckingham Canal. Although the work was commissioned in November, it was agreed that the field survey of the area be conducted during the spring which is a time more appropriate for the investigation of flora and fauna. The ecological field survey was undertaken on 9 April 2002.

It is understood by Middlemarch Environmental Ltd. that the site is being considered for possible future restoration, this may entail lining certain parts of the canal length with plastic sheeting to prevent leakage, particularly on the high embankment. There is also the possibility of the building of a mooring bay or marina at the A5 end of the site. The Buckingham Canal Society wished to ascertain if there is any existing ecological interest that might impact on the development of the site.

This report details:

- the results of the ecological desk study and field survey;
- an assessment of the habitats found within the site and their potential to support wildlife;
- an initial assessment of the constraints and opportunities presented by the ecology on the development of the canal.

2. METHODOLOGY

2.1 Desk Study

A desk study of the site was undertaken to determine what habitats and species have been recorded at the site and the surrounding area. This involved contacting consultees for protected species records and sites of nature conservation importance within a 2 km radius of the proposed development site. The consultees included:

- English Nature;
- The Wildlife Trust for Bedfordshire, Cambridgeshire, Northamptonshire & Peterborough;
- Northamptonshire Herpetological Group
- South Northamptonshire Badger Group.

Middlemarch Environmental Ltd. undertook a review of the collated ecological data.

2.2 Field Survey

To fulfil the brief of undertaking an ecological survey of the site, an extended Phase 1 Habitat Survey was conducted (JNCC, 1993). This is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are likely to be ecologically important.

The Phase 1 Habitat Survey was conducted on 8 April 2002. During the Phase 1 Habitat Survey, the presence or potential presence of protected species was also recorded.

3. DESK STUDY

3.1 Nature Conservation Sites

There are no designated or proposed statutory sites (eg Special Protection Areas: SPAs, Special Areas of Conservation: SACs, Site of Special Scientific Interest: SSSIs or Local Nature Reserve: LNRs) within 2 km of the survey site. There are no records of ancient woodland within 2 km of the survey site.

There is one record on English Nature's Grassland Inventory database:

SP 781421

Cosgrove Quarry.

Calcareous grassland.

This site is 350 m from the survey site.

The site itself is a County Wildlife Site:

Site No 90

Cosgrove Old Canal – Prime Site

NGR SP 793421 – SP 783414

The evaluation of the site by The Wildlife Trust for Northamptonshire states that the site consists of:

*“ An unusual strip of trees which provide a useful habitat corridor from the main canal past the Dogsmouth Brook and near to the Great Ouse. The flora contained is not unusual but the presence of broadleaved helleborine *Epipactis helleborine* is significant, and with the raised hedgeline suggests that the site has had a hedge and/or woodland features for a long time ”.*

Country Wildlife Sites are non-statutory sites that meet agreed criteria based on the ecological interest of the site (primarily relating to habitat quality and species that are present) and may receive some protection through the planning process.

There are five County Wildlife Sites within a 2 km radius of the survey site (Smith 2002) as shown in Table 3.1. Figure 1 illustrates the location of these sites with respect of the survey site. For each of the sites there is a map, a species list and a copy of the site record entry (see Appendix 1).

County Wildlife Site Name	County Wildlife Site No.	Grid Reference
Old Stratford A5 Verge	19	SP767422
Grand Union Canal: Navigation Inn	91	SP782446
Dogsmouth Brook Meadow	344	SP783417
Cosgrove Quarry	403	SP781421
Cosgrove Priory Mill Stream	813	SP797432

**Table 3.1 Names and locations of the County Wildlife Sites located within
2km of the survey site.**

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BUCKINGHAM CANAL, OLD STRATFORD ARM

FIGURE 1: COUNTY WILDLIFE SITES WITHIN A

2KM RADIUS

CASTLETHORPE CP

C.W.S 813

2 km RADIUS

COSGROVE CP

C.W.S. 91

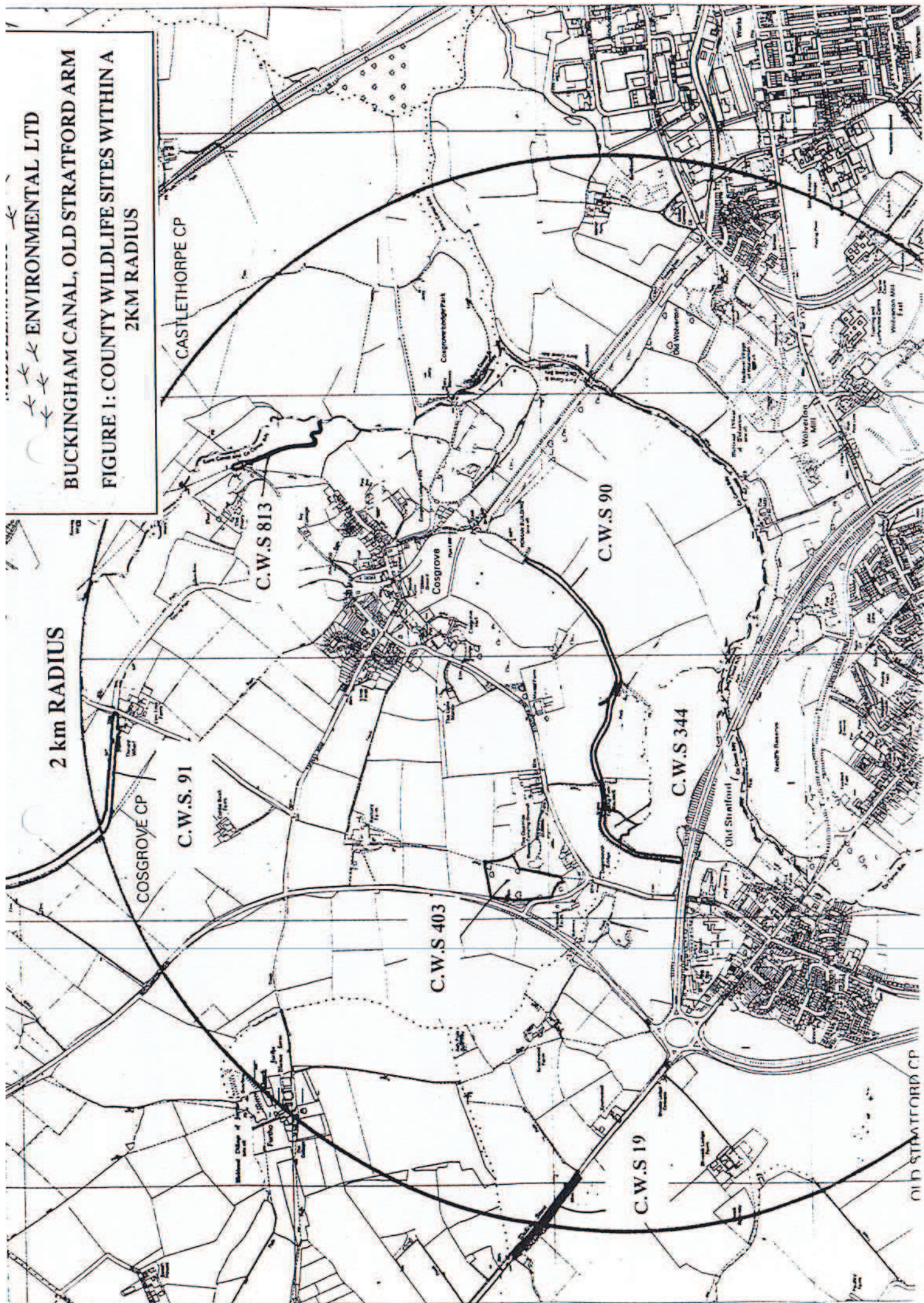
C.W.S 403

C.W.S 90

C.W.S 344

C.W.S 19

OLD STRATFORD CP



3.2 Badgers

Badger (*Meles meles*) presence has been reported within 2km of the survey site, within the last 10 years:

- SP 783419 – Firs Farm, off Cosgrove Road, February 1996. (Orchard 2002)

This site is approximately 250 m from the site

It is not known whether these setts are currently in use.

The requested information from the South Northamptonshire Badger Groups was not received in time to be included within this report, despite a request for information on 21st February and 5th March 2002.

The badger is listed in Appendix III of the Berne Convention, they are protected in Britain under the Protection of Badgers Act 1992 and under Schedule 6 of the Wildlife and Countryside Act 1981.

The badger and their setts are protected and any work within 30 m from the sett has to be licensed by English Nature. Construction work is more likely to be permitted between August and November.

3.3 Water Voles

The desk study did not find any records of Water voles (*Arvicola terrestris*) using the survey site.

3.4 Otters

The desk study did not find any records of Otters (*Lutra lutra*) using the survey site.

3.5 Great crested newts

The desk study did not find any records of Great-crested newts (*Triturus cristatus*), using the survey site.

3.6 Bats

Bats have been within 2km of the proposed development site, within the last 10 years:

- SP 791426 - The Old Dower House, August 1997 (Orchard 2002)

This site is approximately 500 m from the site

All species of British bat are listed in Appendix II of the Berne Convention and various Annexes of the Habitats Directive. They are protected under Schedule 5 of the Wildlife and countryside Act 1981 and Schedule 2 of the Conservation (Natural Habitats, etc) Regulation 1994 (Regulation 38).

It is therefore illegal to kill, injure, handle, obstruct access, destroy or disturb any site that they use.

3.7 Brown Hare

A brown hare *Lepus europaeus* was observed in the old canal bed during a survey of the site in 1991 (Northamptonshire Wildlife Trust 1991).

This species is listed both on the UK and Northamptonshire Biodiversity Action Plan.

4 FIELD SURVEY

4.1 Introduction

An annotated Phase 1 Habitat Survey Map is attached in Appendix 2. This map illustrates the location of all the habitat types recorded at the site.

No nationally scarce or rare habitats, plants or animals were recorded during the site survey of 8 April 2002. It is possible that some plants and animals could have been overlooked, or gone unrecorded during the survey because they may only be present at certain times of the year. The weather conditions during the time of survey are presented in Table 4.1.

Air temperature	Rain	Cloud cover	Wind speed
8°C	none	20%	Force 3

Table 4.1 Weather conditions during the Phase 1 habitat survey conducted on 8 April 2002.

4.2 Habitats

The following habitats were recorded at the survey site:

- Improved grassland
- Tall ruderals
- Defunct hedgerow
- Broadleaved Woodland Plantation
- Swamp
- Dense Scrub
- Scattered trees
- Standing Open Water

The location of each of these habitat types is illustrated on the Phase 1 Survey map (Appendix 2).

Improved grassland

Improved grassland habitat was recorded along the borders of the footpath that now exists on the old canal towpath. This habitat type existed with tall ruderal habitat in areas where the disused canal bed was very dry. Improved grassland habitat was recorded within particularly large areas of the old canal bed where sheep were allowed to graze and at the southern end of the survey site (near to the A5) where there were large areas of bare earth. This southern area was particularly species poor.

The improved grassland habitat recorded in the survey site was of a short height, dominated by rye grass and species-poor. Table 4.2 lists all of the plant species recorded in this habitat.

Common Name	Scientific Name
Broad-leaved dock	<i>Rumex obtusifolius</i>
Cleaver	<i>Galium aparine</i>
Cocksfoot	<i>Dactylis glomerata</i>
Common Comfrey	<i>Symphytum officinale</i>
Creeping Bent	<i>Agrostis stolonifera</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping thistle	<i>Cirsium arvense</i>
Dandelion	<i>Taraxacum officinale</i>
Greater plantain	<i>Plantago major</i>
Groundsel	<i>Senecio vulgaris</i>
Perennial ryegrass	<i>Lolium perenne</i>
Spear thistle	<i>Cirsium vulgare</i>
Timothy grass	<i>Phleum pratense</i>
White clover	<i>Trifolium repens</i>
Yorkshire fog	<i>Holcus lanatus</i>

Table 4.2 Plant species recorded in the Improved Grassland habitat.

Tall Ruderals

This habitat type dominated the dry areas of the disused canal bed; large clumps of common nettle were recorded in the canal bed throughout the survey site but particularly in the southern half of the site. Tall ruderal habitat existed on the banks of the disused canal bed throughout the whole of the survey site. Table 4.3 presents all of the species recorded in this habitat type.

Common Name	Scientific Name
Broad-leaved dock	<i>Rumex obtusifolius</i>
Cleavers	<i>Galium aparine</i>
Cocksfoot	<i>Dactylis glomerata</i>
Common comfrey	<i>Symphytum officinale</i>
Common nettle	<i>Urtica dioica</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Creeping thistle	<i>Cirsium arvense</i>
Great burdock	<i>Arctium lappa</i>
Ground ivy	<i>Glechoma hederacea</i>
Hogweed	<i>Heracleum sphondylium</i>
Spear thistle	<i>Cirsium vulgare</i>
Teasel	<i>Dipsacus fullonum</i>
White dead nettle	<i>Lamium album</i>

Table 4.3 Plant species recorded in the Tall Ruderal habitat.

Defunct hedgerow

A thin line of trees was present along the whole of the eastern side of the disused canal. The trees appeared to be an old hedgerow that has been unmanaged and thus become tall and gappy. The ground flora beneath the trees was relatively species rich and included typical woodland species such as dog's mercury, lords and ladies, lesser celandine and moschatel. The latter species is very locally common.

A defunct hedgerow was also present along the western banks of the survey site between Bridge 2 and where the canal meets the A5. In this area, both banks of the canal supported relatively tall shrubs dominated by hawthorn and apple. Table 4.4 presents all of the species recorded in the defunct hedgerows throughout the survey site.

Common Name	Scientific Name
Beech	<i>Fagus sylvatica</i>
Bramble	<i>Rubus fruticosus</i> agg.
Cocksfoot grass	<i>Dactylis glomerata</i>
Common comfrey	<i>Symphytum officinale</i>
Common nettle	<i>Urtica dioica</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Crab apple	<i>Malus sylvestris</i>
Dog's mercury	<i>Mercurialis perennis</i>
Elder	<i>Sambucus nigra</i>
Garlic mustard	<i>Alliaria petiolata</i>
Ground ivy	<i>Glechoma hederacea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Ivy	<i>Hedera helix</i>
Lesser celandine	<i>Ranunculus ficaria</i>
Lords and Ladies	<i>Arum maculatum</i>
Moschatel	<i>Adoxa moschatellina</i>
Rye grass	<i>Lolium perenne</i>
Sycamore	<i>Acer pseudoplatanus</i>
Yorkshire fog	<i>Holcus lanatus</i>

Table 4.4 Species recorded in the Defunct Hedgerow Habitat.

Broadleaved Woodland Plantation

There were four areas of broadleaved woodland plantation habitat recorded adjoining the survey site. All of the species recorded in this habitat type are presented in Table 4.5. One of the plantations was at the far northern end of the site near to Cosgrove Lock. Tall Lombardy poplars and aspen dominated this plantation and there was an understorey of hawthorn, elder and sycamore. The ground flora in this plantation was relatively diverse and included lesser celandine and cuckooflower.

A large plantation was recorded between Bridge 1 and a farmer's access track. Hawthorn and elder from this plantation were present on the disused canal banks, behind these shrubs were tall trees including sweet chestnut, crack willow and cherry.

A third plantation was recorded midway along the survey site. This plantation included tall trees of beech and oak. The ground flora included dog's mercury and lords and ladies. The plantation in the southern end of the site, near to the sewer, was on a steep bank down into the adjoining fields. Species such as hawthorn, elder and oak from this plantation bordered the survey site.

Common Name	Scientific Name
Alder	<i>Alnus glutinosa</i>
Aspen	<i>Populus tremula</i>
Bramble	<i>Rubus fruticosus</i> agg.
Broad leaved dock	<i>Rumex obtusifolius</i>
Cherry	<i>Prunus</i> sp.
Cleaver	<i>Galium aparine</i>
Common nettle	<i>Urtica dioica</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Crack willow	<i>Salix fragilis</i>
Creeping thistle	<i>Cirsium arvense</i>
Cuckoo flower	<i>Cardamine pratensis</i>
Curled dock	<i>Rumex crispus</i>
Elder	<i>Sambucus nigra</i>
English oak	<i>Quercus robur</i>
Hawthorn	<i>Crataegus monogyna</i>
Hogweed	<i>Heracleum sphondylium</i>
Honeysuckle	<i>Lonicera periclymenus</i>
Hornbeam	<i>Carpinus betulus</i>
Ivy	<i>Hedera helix</i>
Lesser celandine	<i>Ranunculus ficaria</i>
Lombardy poplar	<i>Populus nigra</i> var. <i>Italica</i>
Rye grass	<i>Lolium perenne</i>
Sweet chestnut	<i>Castanea sativa</i>
Sycamore	<i>Acer pseudoplatanus</i>

Table 4.5 Species recorded in the Broadleaved Woodland Plantation Habitat

Swamp

Swamp habitat was recorded in wet areas of the disused canal bed. Such areas existed along the northern half of the survey site but were generally absent from the southern half where the ground was drier and supported improved grassland and /or tall ruderal habitat. The swamp habitat was dominated by reed sweet grass with smaller amounts of other species particularly great willowherb and meadowsweet.

Common Name	Scientific Name
Great willowherb	<i>Epilobium hirsutum</i>
Greater pond sedge	<i>Carex riparia</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Moss sp	
Reed sweet grass	<i>Glyceria maxima</i>
Yellow flag	<i>Iris pseudacorus</i>

Table 4.6 Species recorded in the Swamp Habitat

Dense scrub

Dense bramble with occasional shrub species was recorded in small areas along the canal bank as illustrated in Appendix 2. Table 4.7 presents all the species recorded in this habitat type.

Common Name	Scientific Name
Bramble	<i>Rubus fruticosus agg.</i>
Common nettle	<i>Urtica dioica</i>
Elder	<i>Sambucus nigra</i>
Hawthorn	<i>Crateagus monogyna</i>

Table 4.7 Species recorded in the Dense Scrub Habitat

Scattered Trees

There were several large trees scattered along the western canal banks where the site was bordered by post and wire fencing. The recorded species are presented in Table 4.8

Common Name	Scientific Name
Crack willow	<i>Salix fragilis</i>
Elder	<i>Sambucus nigra</i>
Hawthorn	<i>Crateagus monogyna</i>
Sycamore	<i>Acer pseudoplatanus</i>

Table 4.8 Tree species scattered along the survey site.

Standing Open Water

The most northern part of the survey site is the only part of the Old Stratford Arm Canal that still holds water. This area is used as a mooring for canal barges. No aquatic or emergent vegetation was recorded within this area. The marginal vegetation consisted of areas of reed sweet grass swamp as described in the Section detailing Swamp habitat.

4.4 Fauna

Moorhen and coot were observed in the canal where the barges were moored.
Canada geese were nesting on the banks in the northern end of the site.

Several species of bird were recorded in the defunct hedgerows and woodland plantations bordering the site as presented in the Table 4.9

Common Name	Scientific Name
Blackbird	<i>Turdus merula</i>
Blue tit	<i>Parus caeruleus</i>
Chaffinch	<i>Fringilla coelebs</i>
Goldcrest	<i>Carduelis carduelis</i>
Great tit	<i>Parus major</i>
Long tailed tit	<i>Aegithalos caudatus</i>
Robin	<i>Erithacus rubecula</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

Table 4.9 Bird species recorded in the Defunct Hedgerows and Broadleaved woodland plantations.

Rabbit *Oryctolagus cuniculus* burrows were present throughout the survey site in the banks of the old canal.

The plantation near to the Farmhouses contained large holes that may have been a badger *Meles meles* sett. However, the presence or otherwise of a badger sett could not be definitively determined.

5. ECOLOGICAL ASSESSMENT OF THE HABITATS WITHIN THE SURVEY SITE.

The desk study determined that the survey site is a County Wildlife Site and that another County Wildlife Site is located adjacent to the survey site. County Wildlife Sites meet agreed criteria based on the ecological interest of the site, therefore the survey site has been recognised as a site of relatively high wildlife value. County Wildlife Sites may receive some protection through the planning process.

The desk study showed that badger and bats have been recorded within 250 m and 500 m respectively of the survey site. Badger is a species protected under National legislation. All bat species are protected by National and European legislation. The field survey showed the possible presence of badgers within the survey site but further investigation is required in order to confirm badger presence.

The defunct hedgerows on the borders of the survey site are of high wildlife value. These hedgerows provide excellent wildlife cover and act as important wildlife corridor. The hedgerows and broadleaved plantations adjoining the survey site also provide foraging, nesting and roosting habitat for a variety of bird and bat species, several species of bird were recorded at the site during the field survey. The hedgerows and plantations and their associated ground flora are relatively botanically diverse, which is of importance to birds, small mammals and invertebrates as it results in a wide variety of food sources.

The small areas of swamp within the survey site provide a habitat type that is relatively uncommon in the area. Swamp is a target habitat of the Northamptonshire Biodiversity Action Plan. The presence of swamp is particularly important in increasing the biodiversity within the local area surrounding the survey site as this area is greatly dominated by farmland, i.e. fields of arable crops or heavily grazed improved grassland that have low ecological value.

Large areas of the survey site were dominated by improved grassland and tall ruderal habitats which are very common habitat types and which are of low botanical value. These habitats types may continue to encroach upon the areas currently occupied by swamp habitat if the ground becomes increasingly drier.

The small area of open water within the survey site provides an important habitat type. However the majority of the open water area is occupied by moored barges thus limiting the establishment of flora and fauna in the water.

6. CONSTRAINTS AND OPPORTUNITIES PRESENTED BY THE ECOLOGY OF THE SITE ON THE DEVELOPMENT OF THE CANAL.

This report details the finding of an initial investigation of the ecology of the survey site based on a desk study and one site visit. The site is a County Wildlife Site and thus is of relatively high ecological value and may be afforded protection through the planning process. These factors must be taken into account during the designing of any future development of the site.

The presence of badgers on the survey site requires further investigation. If confirmed, badger presence may cause a constraint to the development of the survey site as badgers and their setts are protected and any work within 30 m (sometimes 100 m) from the sett may be restricted and has to be licensed by English Nature.

The large numbers of trees and shrubs within and bordering the survey site offer a large number of potential nesting sites to birds, several species of which were observed during the field survey. The presence of nesting birds may impact on the development of the site as all birds, their nests and their eggs are protected under the Wildlife and Countryside Act 1981 (it is an offence to kill, injure, or capture any wild bird; damage or destroy the nest of any wild bird while the nest is being built or is in use; or take and destroy an egg of any wild bird). The old hedgerows bordering the survey site are of high wildlife value and hedgerows are a target habitat of the Northamptonshire Biodiversity Action Plan (BAP), therefore the hedgerows should be protected during any future development work.

Small areas of swamp were recorded in the disused canal bed. This is a relatively uncommon habitat type in the surrounding area and is listed on the Northamptonshire BAP. Any future development of the canal should consider opportunities to retain this habitat type within the survey site. The translocation of the swamp to the canal edges should be investigated.

Improved grassland and tall ruderal habitats dominated the disused canal bed and banks and scrub is beginning to encroach. Improved grassland and tall ruderal are very common habitat types and are of a relatively low botanical value. Any future development of the survey site that would result in the replacement of these habitat types with one of a greater ecological interest e.g. swamp or open standing water (two habitat types listed on the Northamptonshire BAP) would result in a increase in the ecological value of the survey site.

Any future development of the site should be designed in a manner to incorporate ecological and Biodiversity Action Plan targets for the site and should focus on the retention and enhancement of the site as a habitat corridor. Thus it is recommended that the designing of any future development of the survey site is performed in conjunction with a professional ecologist.

REFERENCES

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APPENDICES

APPENDIX 1 COUNTY WILDLIFE SITE INFORMATION

NWT PRIME SITE RECORD

Name(s): Cosgrove Old Canal

Parish(es): Cosgrove

Grid Reference: SP793421 - SP783414

Habitat Information

Code Habitat Type

A2	Scrub
F11	Swamp, fen and inundation communities: single sp. dominant swamp
J23	Other: boundary, hedgerow with trees

Site Description

Disused Buckingham Arm of the Grand Union Canal. This part is now dry and overgrown with scrub containing many hedgerow species. The footpath past the old canal is bordered by a hedge, possibly of ancient origin. The north end of the site is the wettest and contains a small area of reed sweet-grass swamp with associated canalside species. The diversity of scrub species and the well-established hedgerow provide excellent wildlife cover.

S	P	7	9	3	4	2	1	-			7	8	2	4	1	4
---	---	---	---	---	---	---	---	---	--	--	---	---	---	---	---	---

TIME ON SITE (hrs)	1
--------------------	---

WEATHER	dull
---------	------

DESCRIPTION

Part of the now-disused Buckingham Canal. Nearly all of this stretch is dry and contains mature scrub and a well-established hedgeline.

The northern end of the canal has a short stretch of open water left. This is part of Cosgrove Marina and is used for mooring narrowboats. South of this is the start of the largely dry, disused canal. Only the part next to the small track which divides off the marina area has some water; this is confined to a damp patch of *Glyceria maxima* swamp with occasional species such as *Impatiens capensis*, *Galeopsis tetrahit*. This area has the start of a line of tall, mature trees and scrub that continues for the length of the old canal bed.

South of the damp area the canal becomes a shallow depression with an old hedgeline (possibly an ancient feature dating from before the canal) along the east border and trees and scrub in the bed. These include crack willow, oak, ash, english elm, wych elm, sycamore, beech, elder, crab apple, dogrose. The hedge on the opposite side of the path is slightly raised on a bank and consists of hawthorn, crab apple and field maple with ash and english elm standards.

Under the belt of trees are species associated with woodland eg. *Geum urbanum*, *Hedera helix*, *Geranium robertianum*, *Glechoma hederacea*. There is one plant of *Epipactis helleborine* here. After a small stretch of open track through a sheep pasture (only the hedge remains here) the dense scrub and trees resume, with bramble next to the path providing a habitat lacking in the surrounding area. A hare and many rabbits were using the old canal bed at the time of survey. It is also likely to form the best bird habitat in the area.

The path is abruptly truncated by the A5 dual carriageway and resumes as a path (not surveyed) on the other side.

EVALUATION

An unusual strip of trees which provides a useful habitat corridor from the main canal past the Dogsmouth Brook and near to the Great Ouse. The flora contained is not unusual but the presence of broadleaved helleborine is significant, and with the raised hedgeline suggests that the site has had a hedge and/or other woodland features for a long time.

SITE MAP

GRID REF

S

P

7

9

3

4

2

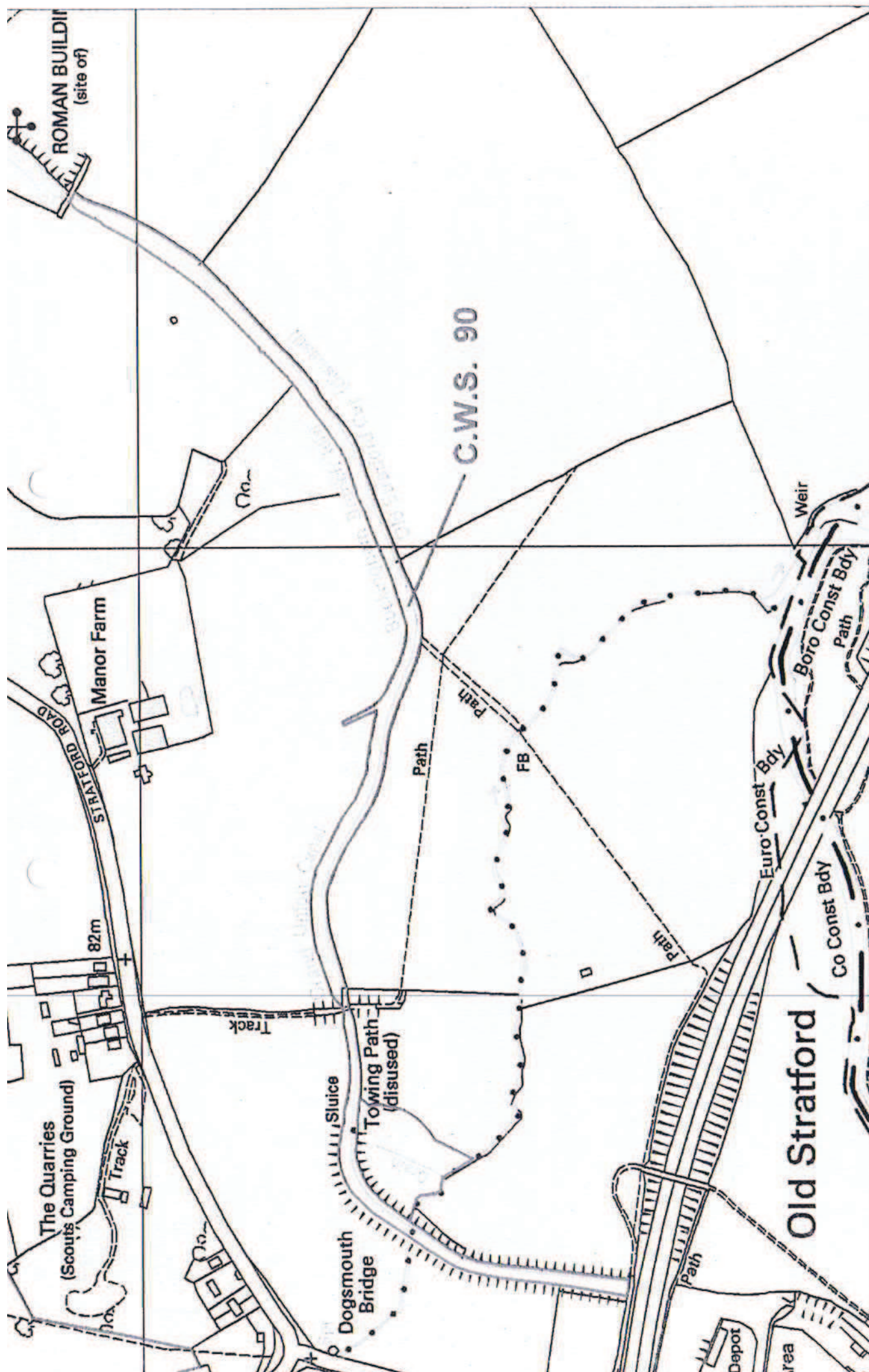
1

-782414

SCALE

1:10 000





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R E C O R D E R The Wildlife Trust for Northamptonshire Wednesday 6th February, 2002

Species list for Cosgrove Old Canal

Ulmus glabra
 Ulmus procera
 Urtica dioica
 Fagus sylvatica
 Quercus robur
 Rumex conglomeratus
 Rumex sanguineus
 Rumex obtusifolius
 Salix fragilis
 Rubus fruticosus agg.
 Geum urbanum
 Rosa arvensis
 Rosa canina agg.
 Malus sylvestris sens. lat.
 Crataegus monogyna
 Crataegus laevigata
 Acer campestre
 Acer pseudoplatanus
 Geranium robertianum
 Impatiens capensis
 Hedera helix
 Anthriscus sylvestris
 Calystegia sepium
 Galeopsis tetrahit agg.
 Glechoma hederacea
 Fraxinus excelsior
 Veronica chamaedrys
 Galium aparine

Wych Elm
 English Elm
 Common Nettle
 Beech
 Pedunculate Oak
 Clustered Dock
 Wood Dock
 Broad-leaved Dock
 Crack Willow
 Bramble
 Herb Bennet
 Field Rose
 Dog Rose
 Apple
 Hawthorn
 Midland Hawthorn
 Field Maple
 Sycamore
 Herb-robert
 Orange Balsam
 Ivy
 Cow Parsley
 Hedge Bindweed
 Common Hemp-nettle [agg.]
 Ground-ivy
 Ash
 Germander Speedwell
 Cleavers

Sambucus nigra
Arum maculatum
Glyceria maxima
Phleum pratense sens. lat.
Elytrigia repens
Epipactis helleborine

Elder
Lords-and-ladies
Reed Sweet-grass
Timothy
Common Couch
Broad-leaved Helleborine

NWT PRIME SITE CARD - FULL DETAILS*Name(s):* Dogsmouth Brook Meadow*File Code:* S/23.6.92*Parish(es):* Cosgrove*Grid Reference:* SP783417*Total Area:* .75Ha

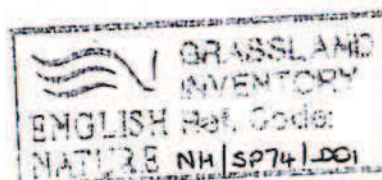
HABITAT INFORMATION

Code	Habitat Type	Area (Ha)
B202	Grassland: neutral, lowland	.75
G2	Open water: running water	

SITE DESCRIPTION

Although still of interest this site has changed considerably since the previous survey. Then it was part wet meadow and part marsh, and known as Cosgrove Marsh. Species included *Valeriana dioica*, *Dactylorhiza incarnata*, *Juncus acutiflorus* and *Caltha palustris*. None of these were found during the recent survey, and the site is now a dry, unimproved sheep pasture with large anthills. The drain across the field (which leads into the Dogsmouth Brook and was responsible for the presence of the old marsh) is still there but with a lower water level and a limited amount of damp vegetation on the banks. Much of the drain is also shaded by old hawthorns growing alongside the banks. The grassland has a wide diversity of grasses and varies between the finer types of MG1 and MG5, although the small area with its wide variety of terrain is difficult to classify. On the drier, raised areas the grassland has frequent *Briza media*, with *Hordeum secalinum*, *Cynosurus cristatus*, *Avenula pubescens*, *Festuca rubra* and *Anthoxanthum odoratum*. The lower ground nearer the brook had *Arrhenatherum elatius*, *Trisetum flavescens*, *Dactylis glomerata*, *Carex hirta*, *C. spicata*, *Hordeum secalinum* and only occasional *Briza media*. The grassland tends to have a low proportion of herb species although the diversity is quite good. Species include *Galium verum*, *Crepis capillaris*, *Lotus corniculatus*, *Plantago lanceolata*, *Trifolium repens*, *T. campestre*, *Hypochoeris radicata* and a small patch of *Cirsium acaulon*. The drain has some dry sections but still supports some marsh species, including *Scrophularia auriculata*, *Eupatoria cannabinum*, *Myosotis scorpioides*, *Mentha aquatica*, *Lychnis flos-cuculi*, *Cirsium palustris* and *Apium nodiflorum*. The end of the drain nearest to the brook has been widened into a small pond. This has yet to vegetation fully but already contains *Agrostis stolonifera*, *Carex riparia* and *juncus effusus* around the edges. The damp banks of the drain have *Holcus lanatus*, occasional *Dactylorhiza fuchsii* and abundant *Pulicaria dysenterica*. The remains of the marsh area have occasional *Deschampsia cespitosa*, *Lysimachia nummularia* and *Galium palustre* grading into a rank and nettly patch at the base of the old canal. This patch is shaded by the ash, hawthorn and elder on the banks of the old canal. Both crickets and grasshoppers were heard and seen at the time of survey.

OTHER SITE DETAILS

Soil Type: Sorry, no details available

Geology: *Sorry, no details available*

Features: *See description*

Land Use:

GRAZING - SHEEP

COMMENTS

This is currently a diverse corner of habitat despite the drying out of the previous interest. It is however very small and might be vulnerable to rapid encroachment should the management change. Should the brook flood, there is also the possibility that some of the old species present could turn up again.

SITE MAP

GRID REF

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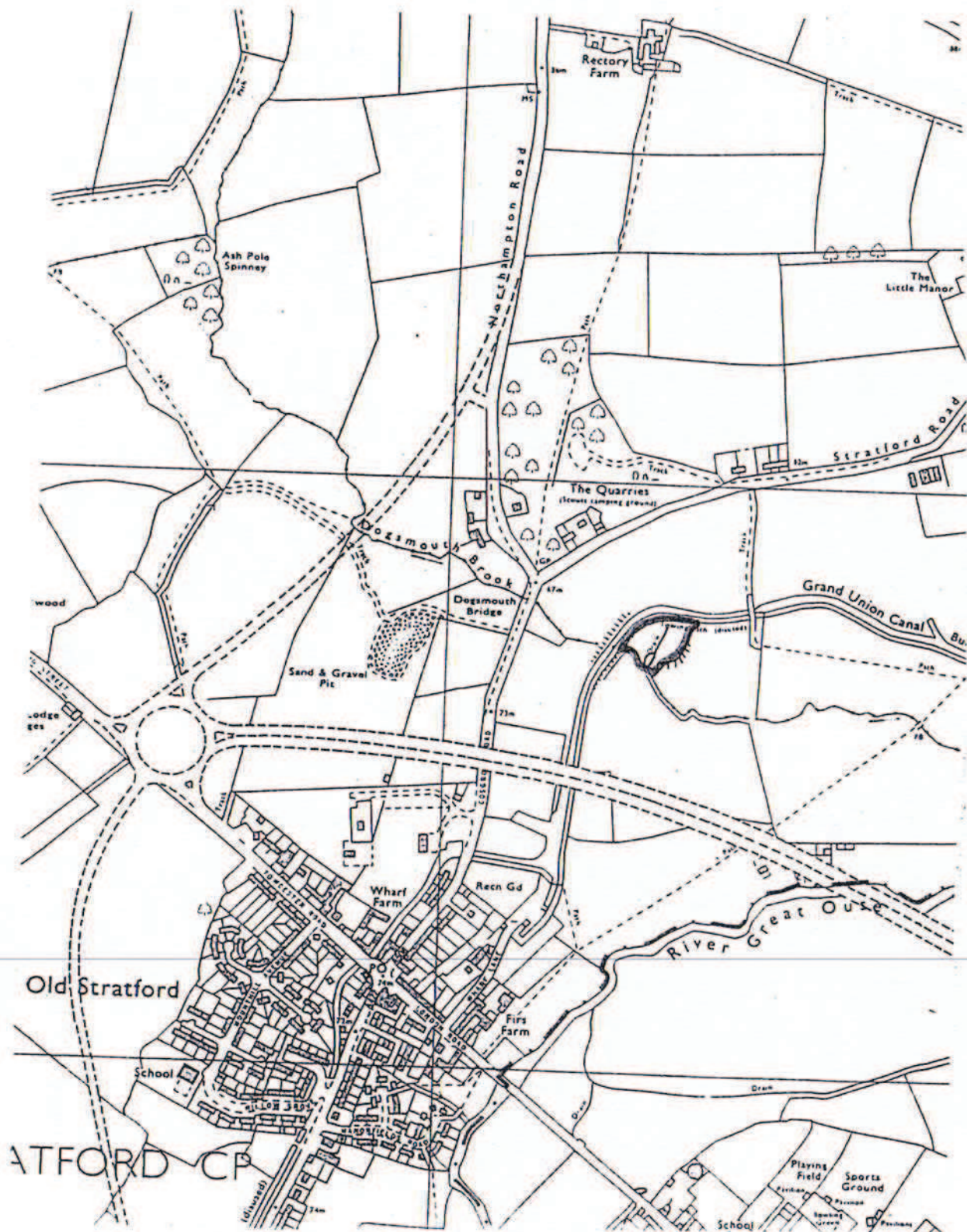
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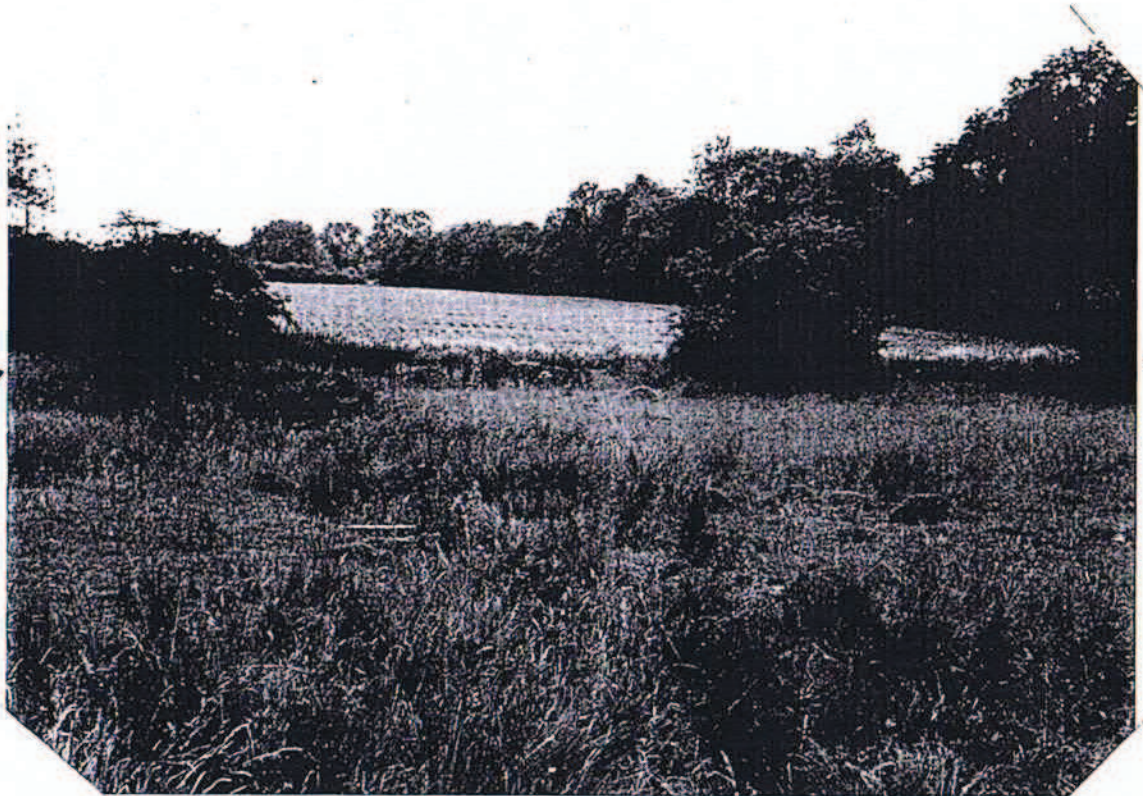
SCALE

1:10 000



23.6.92

pond →



← Dogsmo
Brook

Dampest grassland ↗

↖ drain

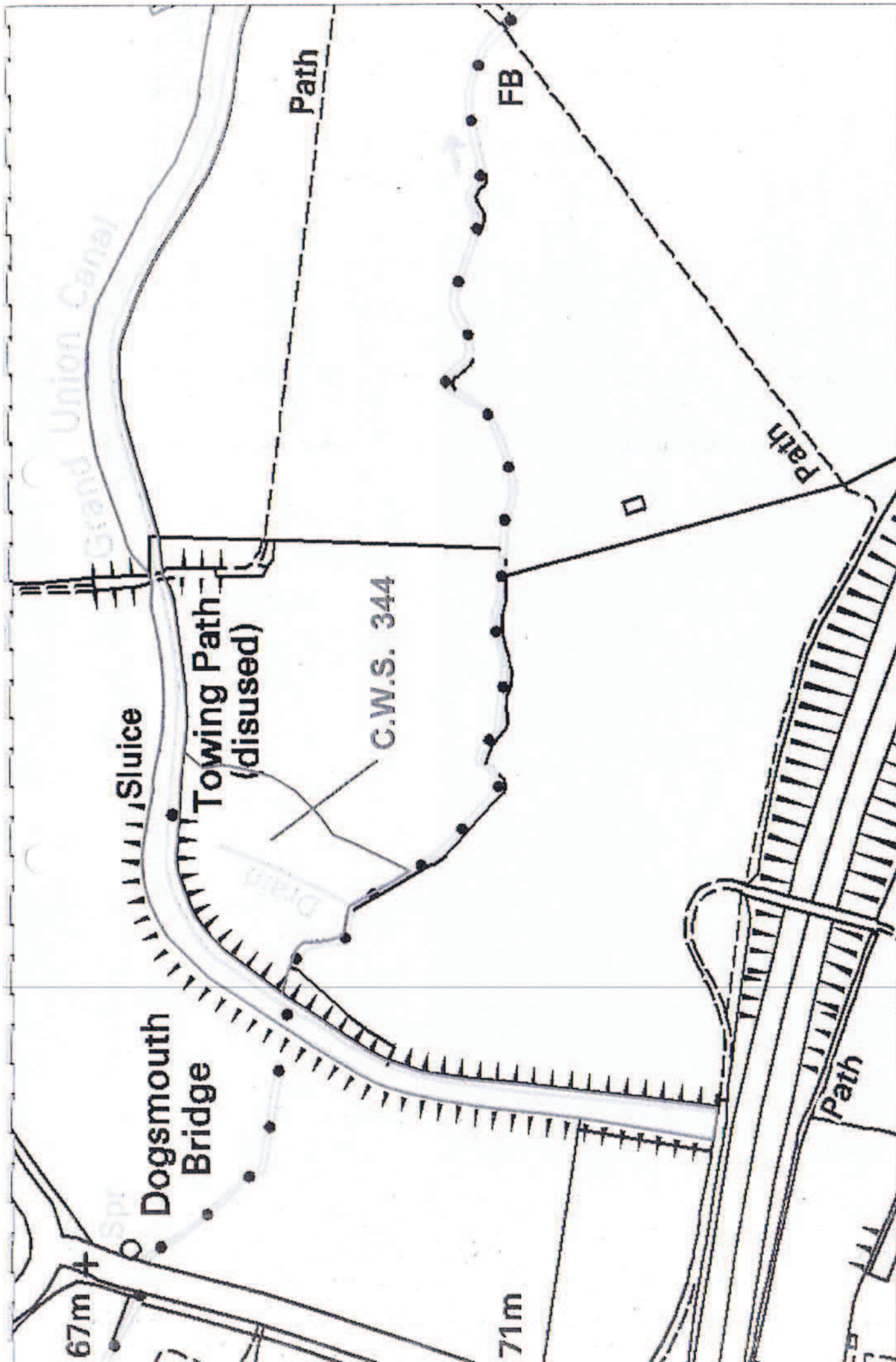
line of old
canal ↙



← best
grassland

↗ drain

Driest grassland



R E C O R D E R

The Wildlife Trust for Northamptonshire

Wednesday 6th February, 2002

Species list for Dogsmouth Brook Meadow

Equisetum arvense
 Ranunculus acris
 Ranunculus repens
 Urtica dioica
 Cerastium fontanum
 Lychnis flos-cuculi
 Salix caprea
 Lysimachia nummularia
 Potentilla reptans
 Crataegus monogyna
 Lotus corniculatus
 Lathyrus pratensis
 Trifolium repens
 Trifolium campestre
 Trifolium pratense
 Apium nodiflorum
 Myosotis scorpioides
 Stachys sylvatica
 Scutellaria galericulata
 Lycopus europaeus
 Mentha aquatica
 Plantago lanceolata
 Scrophularia auriculata
 Galium palustre
 Galium verum
 Galium aparine
 Cirsium vulgare
 Cirsium acaule

Field Horsetail
 Meadow Buttercup
 Creeping Buttercup
 Common Nettle
 Common Mouse-ear
 Ragged Robin
 Goat Willow
 Creeping-Jenny
 Creeping Cinquefoil
 Hawthorn
 Common Bird's-foot-trefoil
 Meadow Vetchling
 White Clover
 Hop Trefoil
 Red Clover
 Fool's Water-cress
 Water Forget-me-not
 Hedge Woundwort
 Skullcap
 Gipsywort
 Water Mint
 Ribwort Plantain
 Water Figwort
 Common Marsh-bedstraw
 Lady's Bedstraw
 Cleavers
 Spear Thistle
 Dwarf Thistle

Cirsium arvense	Creeping Thistle
Hypochaeris radicata	Cat's-ear
Tragopogon pratensis	Goat's-s-beard
Crepis capillaris	Smooth Hawk's-s-beard
Pulicaria dysenterica	Common Fleabane
Bellis perennis	Daisy
Juncus inflexus	Hard Rush
Juncus effusus	Soft Rush
Carex spicata	Spiked Sedge
Carex hirta	Hairy Sedge
Carex riparia	Great Pond-sedge
Festuca rubra agg.	Red Fescue
Lolium perenne	Perennial Rye-grass
Cynosurus cristatus	Crested Dog's-s-tail
Briza media	Quaking-grass
Dactylis glomerata	Cock's-s-foot
Glyceria maxima	Reed Sweet-grass
Helictotrichon pubescens	Downy Oat-grass
Arrhenatherum elatius	False Oat-grass
Trisetum flavescens	Yellow Oat-grass
Deschampsia caespitosa	Tufted Hair-grass
Holcus lanatus	Yorkshire-fog
Anthoxanthum odoratum	Sweet Vernal Grass
Phalaris arundinacea	Reed Canary-grass
Agrostis capillaris	Common Bent
Agrostis stolonifera	Creeping Bent
Bromus hordeaceus	Soft-brome
Bromus hordeaceus ssp. hordeaceus	a soft-brome
Elytrigia repens	Common Couch
Hordeum secalinum	Meadow Barley
Dactylorhiza fuchsii	Common Spotted-orchid

THE WILDLIFE TRUST for NORTHAMPTONSHIRE: DETAILED WILDLIFE SITE RECORD CARD

SITE NAME(s): COSGROVE PRIORY MILL STREAM

File Code: S/1994

Parish(es): Cosgrove

Grid Reference: SP797432
SP799428

Total Area: 1.50Ha

HABITAT INFORMATION

Code	Habitat Type	Area(Ha)
3222	Open water: mesotrophic streams & rivers 1-3m wide	1.50

SITE DESCRIPTION

From the Phase One Survey of the River Tove Corridor, 1994: "Shallow part of mill stream below a weir. Mainly S23 water-margin vegetation maintained by sheep grazing, the species present included *Myosotis scorpioides*, *Apium nodiflorum*, *Alisma plantago aquatica*, *Veronica catenata*, *Rorippa nasturtium-aquaticum*, *Mentha aquatica* and a little *Butomus umbellatus*."

OTHER SITE DETAILS

Soil Type: Sorry, no details available

Geology: Sorry, no details available

Features:

See description

Land Use:

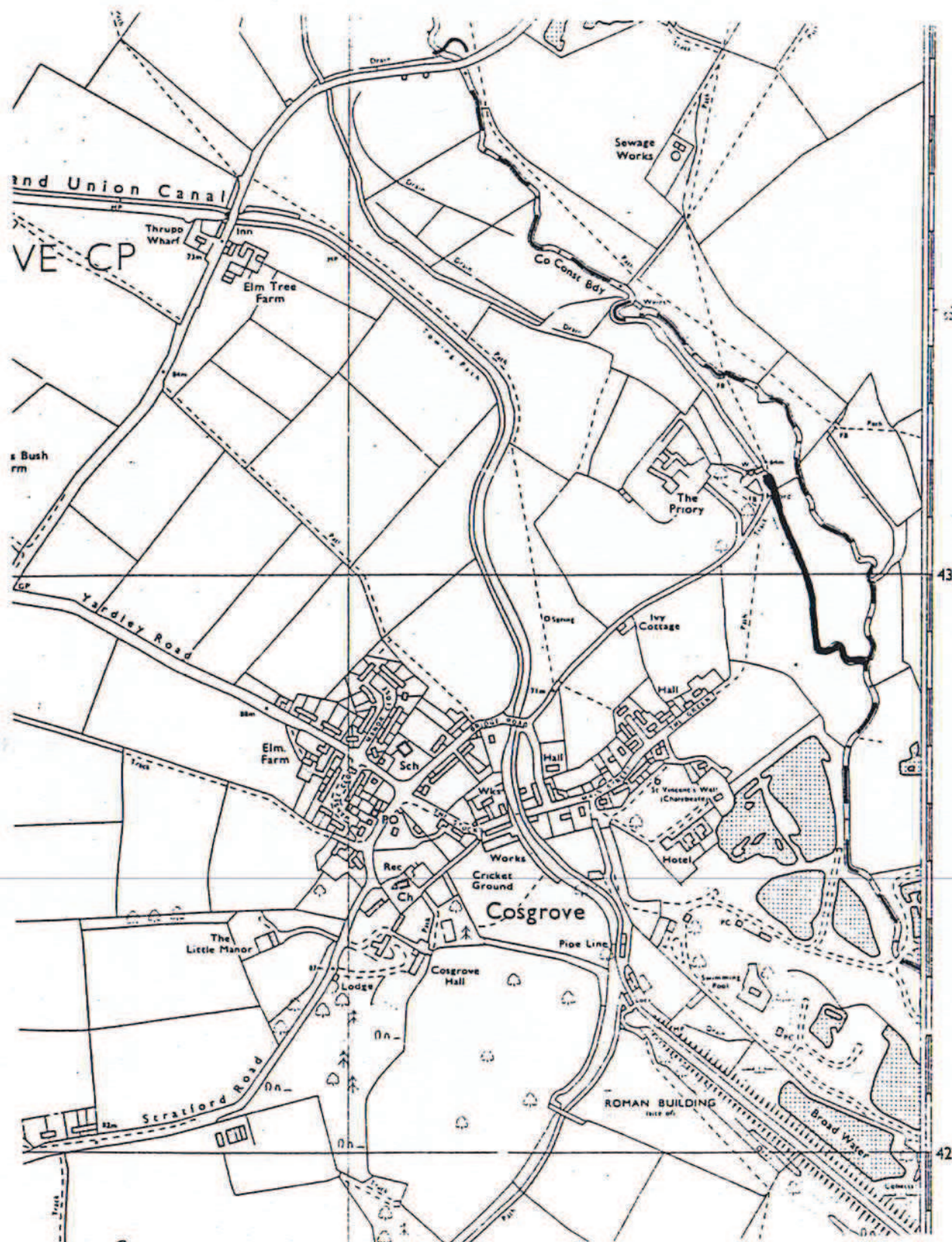
See description

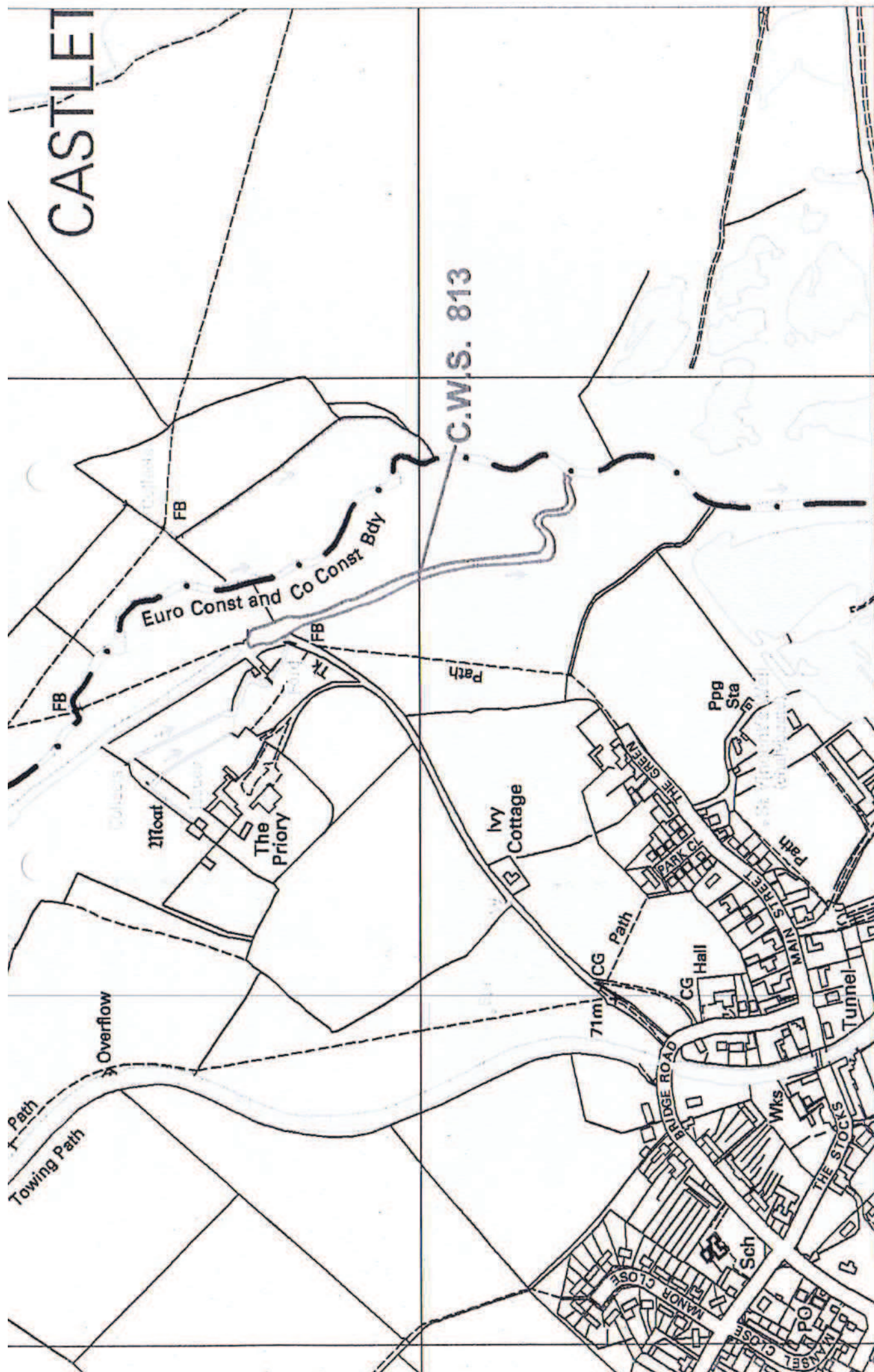
SITE PLAN

NAME(s): COSGROVE PRIORY MILL STREAM

Grid Reference: SP797432
SP799428

Scale: 1:10 000





Wednesday 6th February, 2002

R E C O R D E R The Wildlife Trust for Northamptonshire

Species list for Cosgrove Priory Mill Stream

Nasturtium officinale agg.

Apium nodiflorum

Myosotis scorpioides

Mentha aquatica

Veronica catenata

Butomus umbellatus

Alisma plantago-aquatica

Water-cress Spp

Fool's Water-cress

Water Forget-me-not

Water Mint

Pink Water-speedwell

Flowering Rush

Water-plantain

THE WILDLIFE TRUST for NORTHAMPTONSHIRE: DETAILED WILDLIFE SITE RECORD CARD

SITE NAME(s): COSGROVE QUARRY

File Code: S/13.5.93

Parish(es): Cosgrove

Grid Reference: SP781421

Total Area: 2.80Ha

HABITAT INFORMATION

Code	Habitat Type	Area(Ha)
B302	Grassland: calcareous, lowland	2.00
A2	Scrub	.80

SITE DESCRIPTION

An abandoned limestone quarry that has long been used by the Scouts as a camping ground. The northwest half of the site is of interest for its grassland species although rank herbs and scrub are threatening to overtake this in the absence of grazing. It has been a proposed SSSI, although in its current state this is no longer the case. Some of the remaining areas of grassland are MG1 type, dominated by *Arrhenatherum elatius*. The best areas are to the centre and east of the site. These contain species such as *Koeleria cristata*, *Bromus erectus* and *Festuca rubra*, with many anthills and moderate rabbit grazing. Herb species include *Sanguisorba minor*, *Cirsium eriophorum*, *C. arvense*, *Conopodium majus*, *Luzula campestris*, *Centaurea scabiosa*, *C. nigra*, *Primula veris*, *Galium verum*, *Achillea millefolium*, *Luzula campestris*, *Lotus corniculatus*, *Agrimonia eupatoria* and other species typical of calcareous grassland.

OTHER SITE DETAILS

1 Type: Sorry, no details available

Geology: Sorry, no details available

Features:

See description

Land Use:

PUBLIC FOOTPATH

COMMENTS

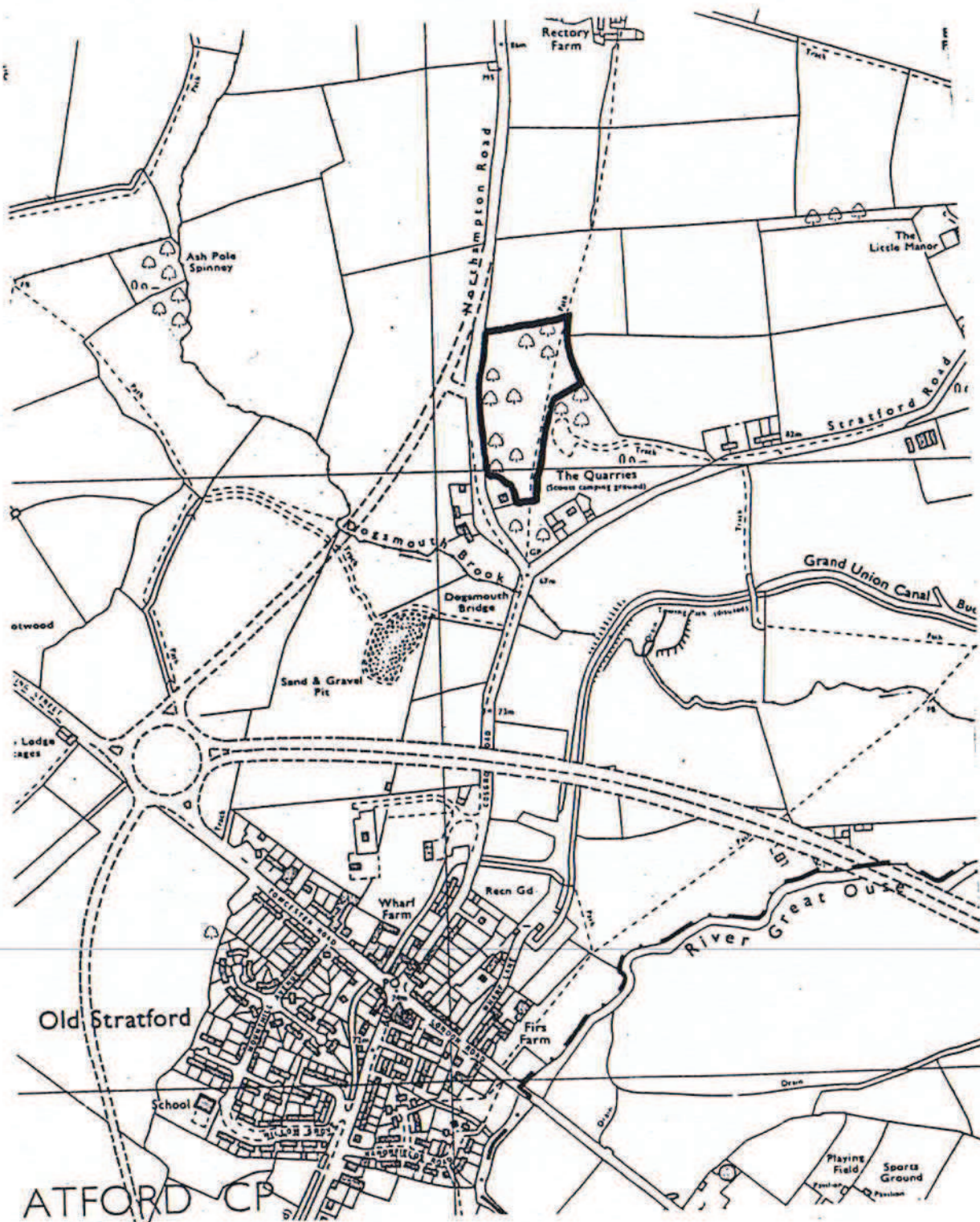
Definite worth some management as the grassland type present is now very rare in Northants. As is often the case it is probably only the rabbit grazing which has kept the finer species from becoming overgrown.

SITE PLAN

NAME(s): COSGROVE QUARRY

Grid Reference: SP781421

Scale: 1:10 000





SPECIES LIST FOR COSGROVE QUARRY

Ranunculus bulbosus
 Urtica dioica
 Cerastium fontanum
 Primula veris
 Potentilla reptans
 Agrimonia eupatoria
 Sanguisorba minor
 Lotus corniculatus
 Trifolium pratense
 Conopodium majus
 Glechoma hederacea
 Plantago lanceolata
 Veronica chamaedrys
 Galium verum
 Cirsium eriophorum
 Cirsium arvense
 Centaurea scabiosa
 Centaurea nigra
 Achillea millefolium
 Senecio jacobaea
 Luzula campestris
 Carex flacca
 Festuca rubra agg.
 Dactylis glomerata
 Koeleria macrantha
 Bromopsis erecta

Bulbous Buttercup
 Common Nettle
 Common Mouse-ear
 Cowslip
 Creeping Cinquefoil
 Agrimony
 Salad Burnet
 Common Bird's-foot-trefoil
 Red Clover
 Pignut
 Ground-ivy
 Ribwort Plantain
 Germander Speedwell
 Lady's Bedstraw
 Woolly Thistle
 Creeping Thistle
 Greater Knapweed
 Common Knapweed
 Yarrow
 Common Ragwort
 Field Wood-rush
 Glaucous Sedge
 Red Fescue
 Cock's-foot
 Crested Hair-grass
 Upright Brome

Site No. 91

NWT PRIME SITE RECORD

Name(s): Grand Union Canal: Navigation Inn

Parish(es): Cosgrove

Grid Reference: SP782446

Habitat Information

Code Habitat Type

G125 open water, standing, canals

Site Description

A fairly open stretch of canal with a well-kept, medium-height hedge beside the towpath. The hedge attracts butterflies and moths and the margins of the water have bushy vegetation with a good variety of emergent species including purple loosestrife and greater tussock sedge.

S	P	7	8	2	4	4	6	-	S	P	7	8	8	4	3	7
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TIME ON SITE (hrs)	1
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WEATHER	dull
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DESCRIPTION

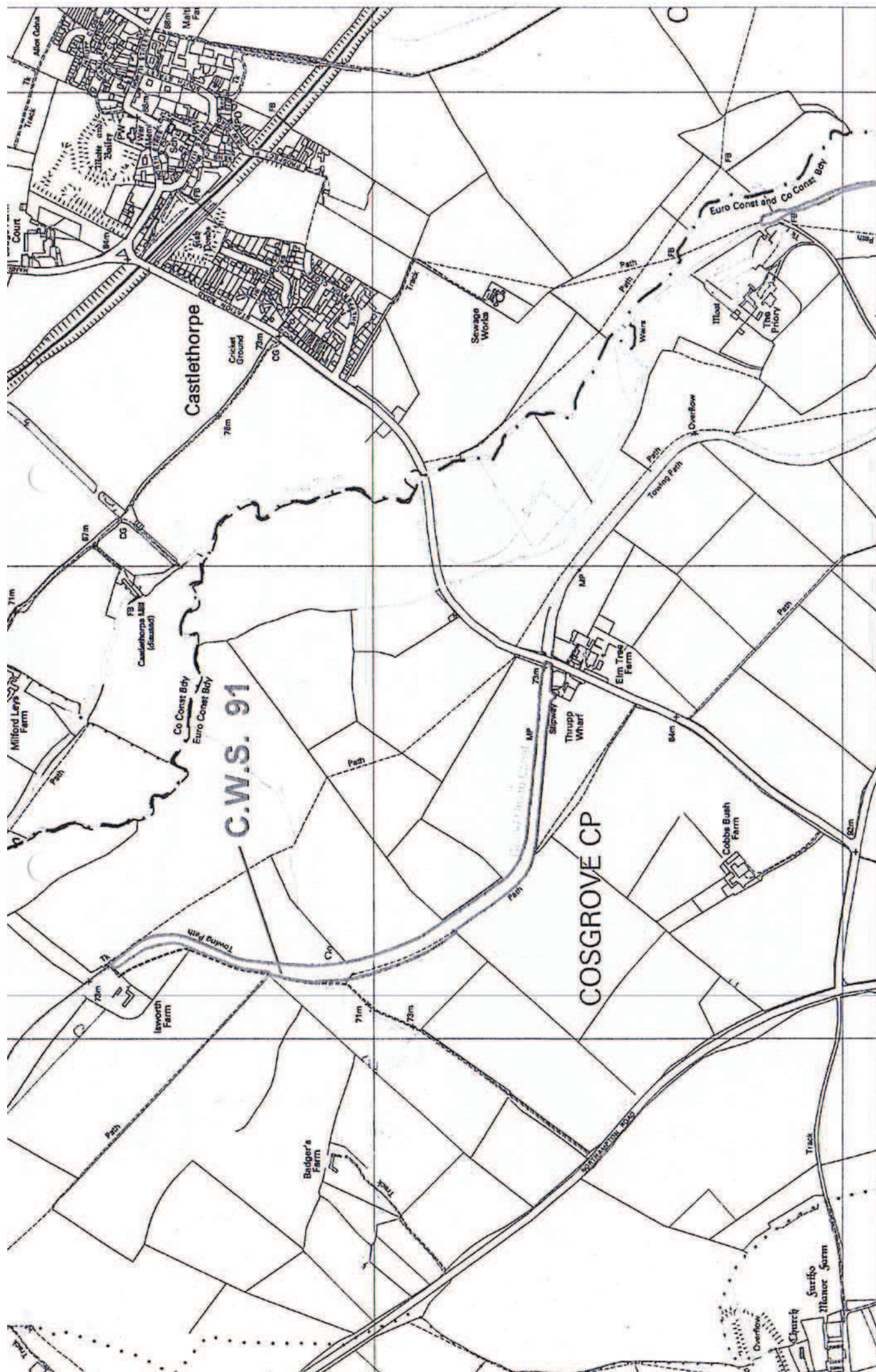
A fairly open stretch of canal with a good variety of species and a well-kept hedge. The hedge and bushy towpath vegetation attract butterflies and moths.

As with much of the canal it is hard to work out why this particular stretch is so much more diverse than the surrounding ones. The most likely explanation is that the area between these two bridges is less affected by agricultural drift.

Vegetation on the towpath is quite variable, with some short, grassy areas dominated by *Arrhenatherum elatius* and *Tussilago farfara*. Most areas however have bushy vegetation leading down to the water's edge. This has species such as *Rumex hydrolapathum*, *Lycopus europaea*, *Impatiens capensis*, *Carex pendula*, *C. paniculata*, *C. hirta*, *C. riparia*, *Glyceria maxima*, *Lythrum salicaria*. *Clematis vitalba* also occurs in patches, increasing the cover for wildlife.

EVALUATION

A useful corridor of habitat which is also currently acting as a potential seed source for less diverse areas of this length of canal, ie. it is the only remaining area with all the common waterside species present. If this area was to decline in variety all the canal in this area would be of low interest.



SITE MAP

GRID REF

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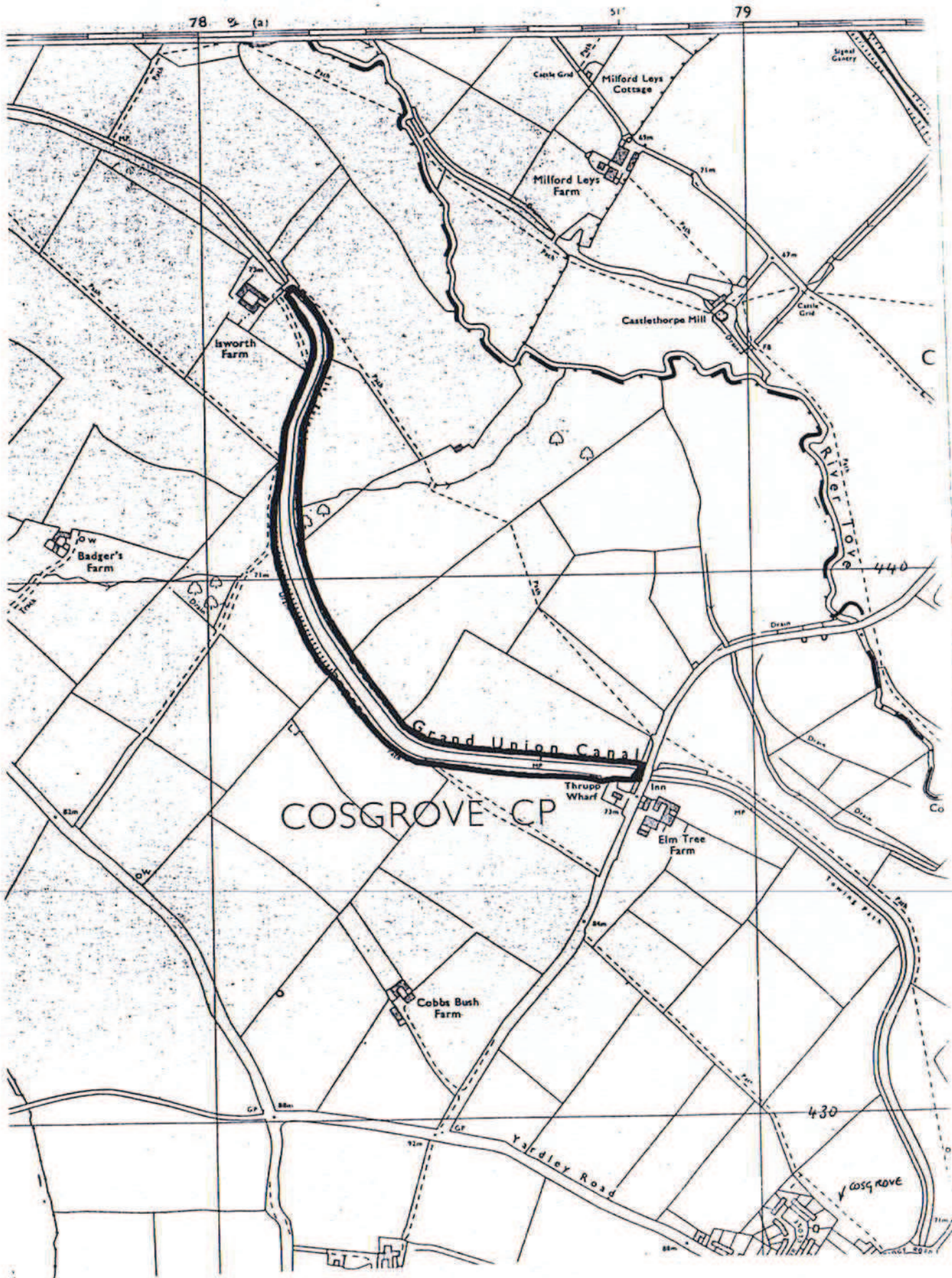
4

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7

SCALE

1:10 000



Species list for Grand Union Canal: Navigation Inn

Clematis vitalba
Ulmus glabra
Urtica dioica
Rumex hydrolapathum
Hypericum tetrapterum
Salix fragilis
Salix cinerea
Filipendula ulmaria
Rubus fruticosus agg.
Malus sylvestris sens.str.
Crataegus monogyna
Lathyrus pratensis
Lythrum salicaria
Epilobium hirsutum
Geranium pratense
Impatiens capensis
Angelica sylvestris
Stachys palustris
Scutellaria galericulata
Lycopus europaeus
Galium mollugo
Sambucus nigra
Cirsium arvense
Tussilago farfara
Juncus inflexus
Schoenoplectus lacustris
Carex hirta
Carex riparia

Traveller's Joy
 Wych Elm
 Common Nettle
 Water Dock
 Square-stalked St. John's-wort
 Crack Willow
 Grey Willow
 Meadowsweet
 Bramble
 Crab Apple
 Hawthorn
 Meadow Vetchling
 Purple-loosestrife
 Great Willowherb
 Meadow Crane's-bill
 Orange Balsam
 Wild Angelica
 Marsh Woundwort
 Skullcap
 Gipsywort
 Hedge Bedstraw
 Elder
 Creeping Thistle
 Colt's-foot
 Hard Rush
 Common Club-rush
 Hairy Sedge
 Great Pond-sedge

Carex pendula
Glyceria maxima
Arrhenatherum elatius

Pendulus Sedge
Reed Sweet-grass
False Oat-grass

THE WILDLIFE TRUST for NORTHAMPTONSHIRE: DETAILED WILDLIFE SITE RECORD CARD

SITE DETAILS

NAME(s): OLD STRATFORD A5 VERGE

File Code: S/22.10.90

Parish(es):
Old StratfordGrid Reference:
SP767422
SP771419Status:
County Wildlife Site

HABITAT INFORMATION

Code	Habitat Type	Area (Ha)
------	--------------	-----------

A222	Scrub: scattered, neutral	
A212	Scrub: dense/continuous, neutral	
B202	Grassland: neutral, lowland	

Total Area: .50Ha

DESCRIPTION

Hedgerow alongside the A5 with high species diversity. Verge grassland was "grade A SNCV" but has now deteriorated. Possible ancient woodland boundary hedgerow. Verge is now mown only at the edge; was once totally mown. See Map... 1) Hedgerow with typical hedge spp. including *Corylus avellana*, *Crataegus monogyna*, *Prunus spinosa*, *Euonymus europaea*, *Acer campestre*, *Cornus sanguineum*. Altogether 13 woody species. Ditch alongside has very few wetland spp. 2) Grassy verge, now rather rank with *Cirsium arvense*, *Urtica dioica*, *Elymus repens*, *Rumex obtusifolius*. Disturbed slightly by footpath maintenance. Other species include *Vicia cracca*, *Silene alba*. 3) Broad verge, much overgrown with *Prunus spinosa* scrub. Grassland rather rank but with a few small areas of better grassland containing *Centaurea nigra*, *Galium mollugo*, *Daucus carota* (one plant!). 4) Scrub consisting mostly of *Cornus sanguinea* and *Prunus spinosa*. A few other woody spp. including *Sambucus nigra*, *Acer campestre*. Very little ground vegetation.

OTHER INFORMATION

Soil Type: Sorry, no details available.

Geology:
Sorry, no details available.Features:
See description

Land Use:
ROAD_VERGES

COMMENTS

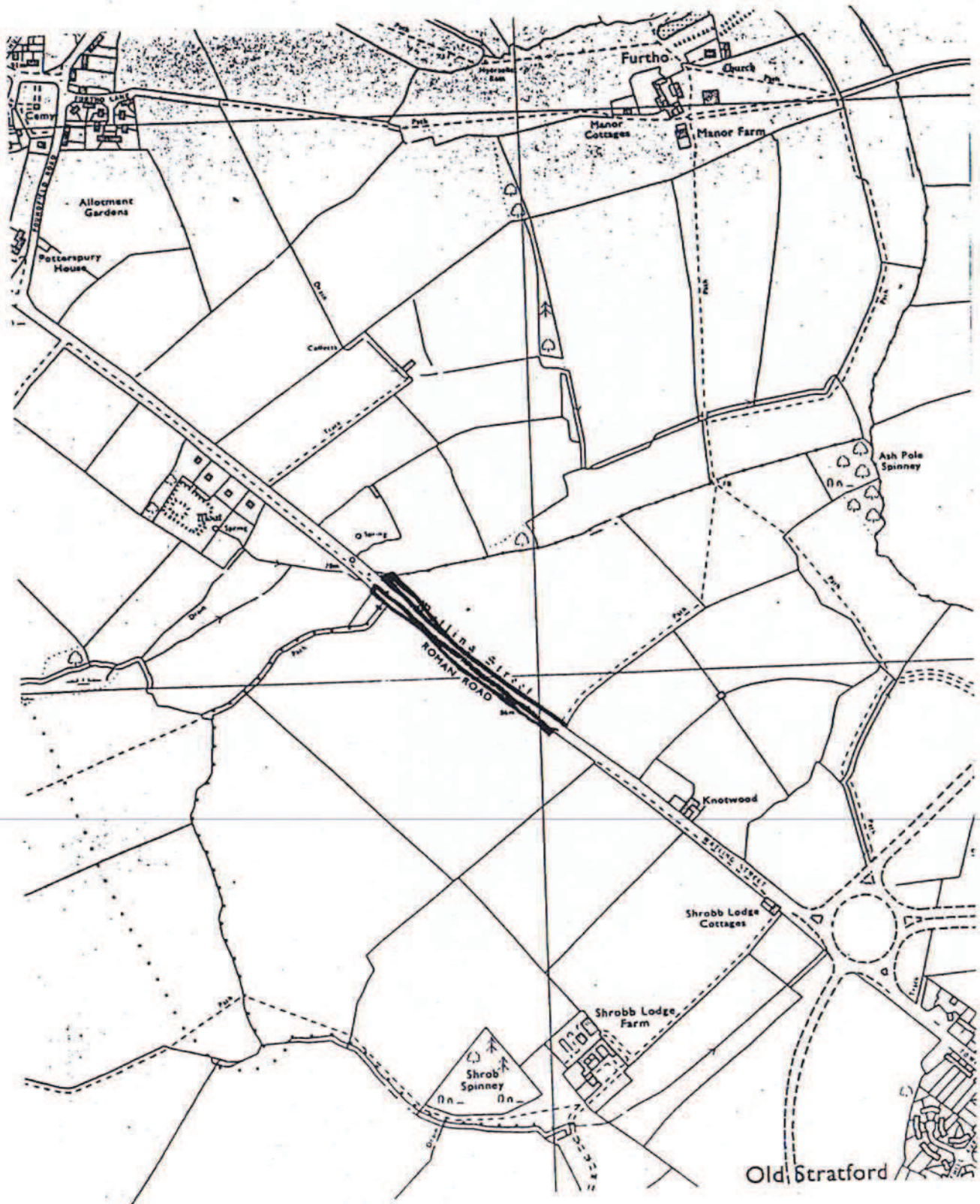
Due to the whole verge no longer being mown the species diversity on both sides (esp. SW) has largely been lost. Re-instatement of the suitable mowing regime could probably bring it back in time but should start as soon as possible in order to achieve this. Hedge management seems OK. The ditch alongside would benefit from some clearance, though, as it has become somewhat choked.

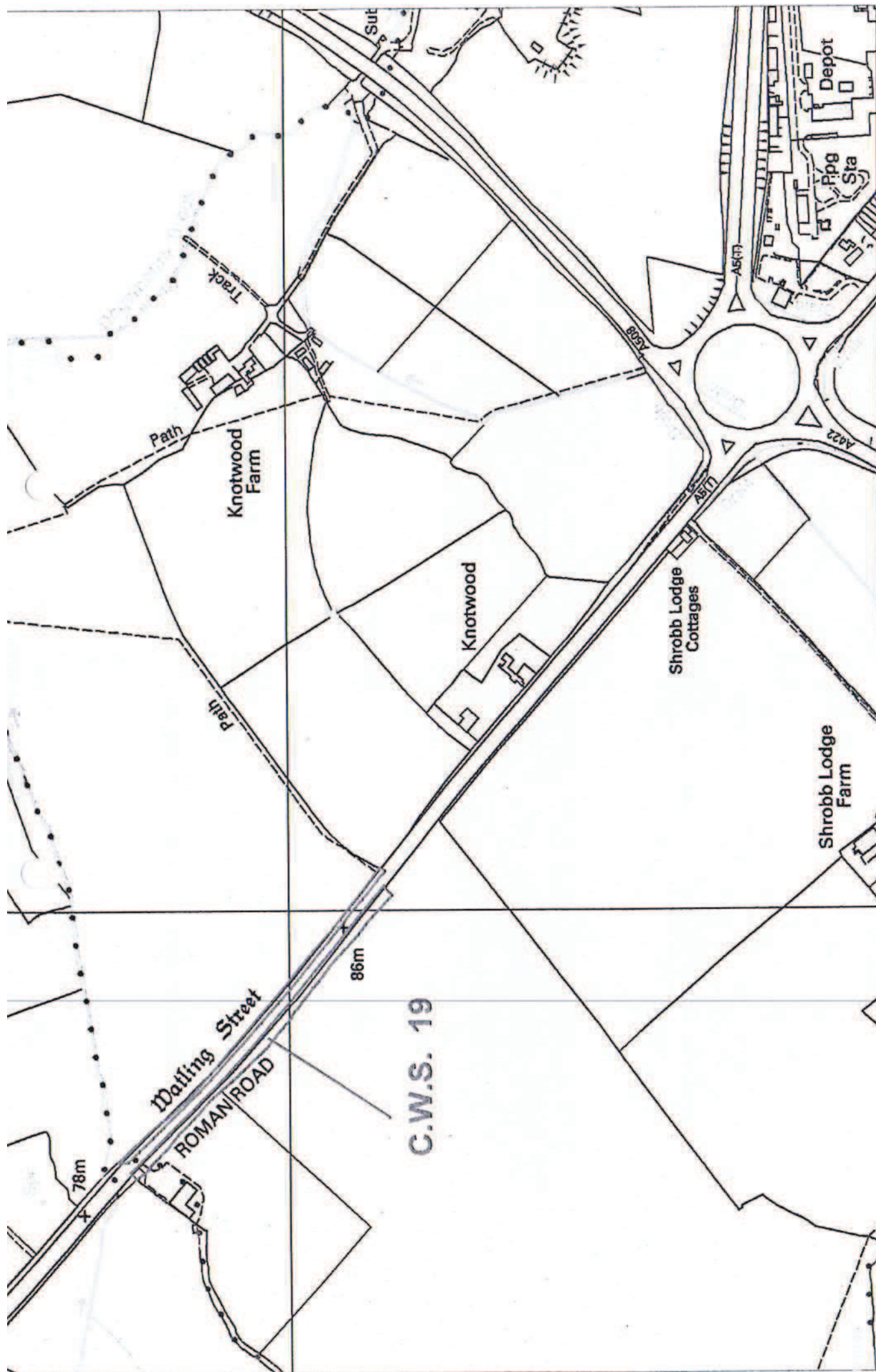
SITE MAP

SITE NAME(s): OLD STRATFORD A5 VERGE

Grid Reference: SP767422
SP771419

Scale: 1:10 000





R E C O R D E R

The Wildlife Trust for Northamptonshire

Wednesday 6th February, 2002

Species list for Old Stratford A5 Verge

Equisetum arvense
 Clematis vitalba
 Urtica dioica
 Quercus robur
 Corylus avellana
 Stellaria media
 Silene dioica
 Polygonum aviculare agg.
 Rumex obtusifolius
 Salix fragilis
 Salix caprea
 Salix cinerea
 Alliaria petiolata
 Filipendula ulmaria
 Rubus fruticosus agg.
 Potentilla reptans
 Rosa arvensis
 Prunus spinosa
 Vicia cracca
 Epilobium hirsutum
 Euonymus europaeus
 Mercurialis perennis
 Acer campestre
 Hedera helix
 Anthriscus sylvestris
 Heracleum sphondylium
 Daucus carota ssp. carota
 Lamium album

Field Horsetail
 Traveller's Joy
 Common Nettle
 Pedunculate Oak
 Hazel
 Common Chickweed
 Red Campion
 Knotgrass [agg.]
 Broad-leaved Dock
 Crack Willow
 Goat Willow
 Grey Willow
 Garlic Mustard
 Meadowsweet
 Bramble
 Creeping Cinquefoil
 Field Rose
 Blackthorn
 Tufted Vetch
 Great Willowherb
 Spindle
 Dog's Mercury
 Field Maple
 Ivy
 Cow Parsley
 Hogweed
 Wild Carrot
 White Dead-nettle

Glechoma hederacea
Plantago lanceolata
Fraxinus excelsior
Ligustrum vulgare
Scrophularia nodosa
Galium mollugo
Galium aparine
Sambucus nigra
Viburnum opulus
Viburnum lantana
Cirsium arvense
Centaurea nigra
Sonchus asper
Artemisia vulgaris
Achillea millefolium
Juncus inflexus
Dactylis glomerata
Arrhenatherum elatius
Deschampsia caespitosa
Calamagrostis epigejos
Elytrigia repens

Ground-ivy
Ribwort Plantain
Ash
Wild Privet
Common Figwort
Hedge Bedstraw
Cleavers
Elder
Guelder-rose
Wayfaring-tree
Creeping Thistle
Common Knapweed
Prickly Sow-thistle
Mugwort
Yarrow
Hard Rush
Cock's-foot
False Oat-grass
Tufted Hair-grass
Wood Small-reed
Common Couch

MIDDLEMARCH ENVIRONMENTAL

QUALITY ASSURANCE

BUCKINGHAM CANAL, OLD STRATFORD ARM

ECOLOGICAL SURVEY

A Report to Buckingham Canal Society

Contract Number: C920


Report Number: RT-MME-920

Revision Number: 01

Description: Final

Date: April 2002

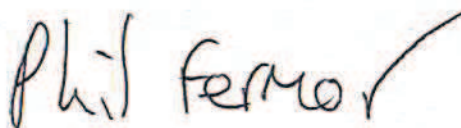
Checked by:



David Smith

Landscape Director

Approved by:



Dr. Philip Fermor

Consultancy Director

APPENDIX 2

PHASE 1 HABITAT SURVEY MAP