

MIDDLE STREET MEADOW MANAGEMENT PLAN.

SUMMARY.

Middle Street Meadow is a Public Open Space owned by Salisbury City Council. The site is valuable for wildlife as part of a green corridor adjacent to the River Nadder which stretches into the heart of the city. It also provides a much appreciated natural area for public enjoyment in a residential district within the city limits.

The meadow is a relic of the water meadow system along the River Nadder, it continued to be grazed until it's donation to the District Council in 1960. From then until 1994 management was minimal, grass cuttings were left to rot on the ground which resulted in nutrient enrichment and loss of species diversity. In 1994 a residents' Conservation Group was formed which worked with the District Council to draw up new management plans aimed at increasing the diversity of flora and fauna and consequently public appreciation of the site.

The initial aims of the project were achieved with the help of a Community Action for Wildlife grant. A change of contractors over the last three years has meant that sympathetic grassland management has not yet been achieved and priority must be given to reaching this goal. Use of the correct machinery and emphasis on removal of cuttings to reduce nutrient enrichment is essential to the success of the project.

Monitoring of the results of the change of management should be undertaken. A successful management prescription in Middle Street Meadow could be used in other natural areas in the city.

The location of the meadow offers considerable scope for public participation and environmental education.

The management plan has been drawn up by the Middle Street Meadow Conservation Group in consultation with the Salisbury District Council and the Wiltshire Wildlife Trust.

1. GENERAL INFORMATION.

1.1 Location:

The meadow is situated in West Harnham in the City of Salisbury. GR. 132294. It is part of a green corridor along the river which extends into the heart of the city and includes the adjacent Harnham Water Meadows Reserve and Nadder Island, a Wiltshire Wildlife Trust Reserve.

1.2 Site Status:

The site is a public open space owned by Salisbury District Council. It was donated to the Council by the landowner in 1960, to remain in it's natural state for the benefit and enjoyment of the public. It lies within the area of High Ecological Value in the District Local Plan. The river bank is part of the Avon Valley Site of Special Scientific Interest (SSSI) and proposed Special Area of Conservation (SAC).

1.3 Site definition and boundaries:

The area of the meadow is 11.2 acres. It is bounded to the North by the River Nadder, to the South by Middle Street, to the East by houses along Constable Way and has one house on the Western boundary. *See location map Appendix 1*

1.4 Legal and other official constraints and permission:

No buildings can be erected on the site under the terms of the original donation. The river bank is subject to the constraints imposed by English Nature relating to it's status as an SSSI and proposed SAC. It is subject to the bylaws of a public open space.

2. ENVIRONMENTAL INFORMATION.

2.1 Physical:

The meadow is part of an old water meadow system along the River Nadder which was worked until early this century. Evidence of water-meadow ditches still remain especially in the eastern end.

During the winter of 1960-61 a severe flood threatened local homes and a chalk flood bank was constructed along the length of the river bank as part of a flood alleviation scheme. This also included dredging another channel for the river so creating Nadder Island. These schemes together altered the hydrology of the meadow lowering the water table. Only following prolonged winter rainfall do parts of the meadow still flood..

In the early 1980s a football pitch was made in the centre of the field by draining and levelling. The surrounding area remained as rough grassland.

The soil is generally alluvial gravels apart from the chalk bank.

2.2 Biological:

2.2.1 Habitats:

1. The River Bank: Approximately 800 m. The western end has steep banks with mature trees of alder, willow and ash. The eastern end has shallow banks and extensive stands of reed, a rare habitat Wiltshire.

2. Grassland: Prior to 1960 the meadow was grazed by cattle and horses. There is no record of the field having been ploughed or fertilised. Following its acquisition by the Council the meadow was cut 2-3 times a year the cuttings being left to rot on the ground. Plants could not flower and set seed and this, together with the nutrient enrichment provided by the cuttings, resulted in a gradual deterioration in vegetation dominated by coarse grasses, docks and nettles.

3. Chalk Bank: An artificial bank created in 1960 for flood prevention purposes. A section of the bank was reseeded in 1996 with a with a grass and wildflower mix.

4. Hedgerow: Along the southern boundary with Middle Street. A mixed hedge, probably a few hundred years old. It has been unmanaged for at least the last 50 years and consists of a number of mature trees. Originally dominated by ash, elm and elder the elms succumbed to Dutch elm disease and were felled in the 1970s. Any regrowth has continued to be affected and felling takes place as necessary.

5. Ditch: A remnant of the disused water meadow system. The main drainage ditch at the eastern end is an important feature with a variety of plants. It remains damp for much of the year but the dense growth of sedge is causing it to gradually dry out.

6. Trees and shrubs: Three large crack willows are a feature of the meadow. Other semi-mature trees have been planted by the Council over the years and include a variety of alien species. More recently young, native species have been planted as part of the meadow project .

2.2.2 Flora:

No records are available prior to 1994 but general observations seem to indicate a gradual deterioration in floral diversity as nutrient levels built up because cuttings were not removed. Records from 1995 following a change in management are listed in *Appendix 2*.

There is considerable variation in the quality of the grass in different areas of the meadow, some areas having finer grasses and a greater diversity of flora than others. There are a number of indicator species of wet meadows including Water Avens, Yellow Iris, Ladies Bedstraw and Ladies Smock.

Twenty one species of grasses have been identified see *Appendix 3*

2.2.3 Fauna:

Butterfly records have been kept since 1994, typical grassland species are present with high numbers of small tortoiseshell and meadow brown. There has been a marked increase following a change in grassland management, (see *Appendix 5*) The presence and gradual increase in numbers of marbled whites is noteworthy.

Large numbers of banded demoiselle damselflies and garden tiger moths have also been recorded. No other insect records have been kept.

Small mammals include common and pigmy shrews, bank vole and field vole, house and field mice and common rat.

Water voles have been sighted along the river bank. Water voles are a key species in the United Kingdom and proposed for inclusion under Schedule 5 of the Wildlife and Countryside Act. They are also included in the draft Wiltshire Biological Action Plan.

Otters are passing through along the river as spraint has been found on two occasions in 1996&97.

Bats recorded on a bat detector since 1986 include pipistrelle, Daubenton's, serotine and noctule.

Sightings of grass snakes have been recorded.

Birds are listed in *Appendix 4*. Nadder Island provides a valuable nesting site for birds visiting the meadow to feed. Kingfishers are frequently seen including young, they nest and breed successfully in the vertical bank on the north side of Nadder Island. The stands of reeds along the river bank provide nest sites for reed warblers and shelter for the shy water rail which was last recorded in the 1980s.

2.3 Cultural.

2.3.1 Recreational use:

Situated in a residential area and within the city limits the meadow is subject to considerable recreational pressure. Many local residents walk the meadow daily, either to exercise their dogs or for quiet enjoyment. The river bank is used by fishermen and is disturbed by dogs entering the water. Children use the mown paths to cycle and joggers to run, while artists come to the meadow to paint. The football pitch is used regularly for matches during the winter and for informal games of football, cricket and golf throughout the year.

People however rarely stray from the paths so the rough grassland remains relatively undisturbed and there is therefore scope for conservation management. There is considerable interest and support for this aspect and appreciation of the natural history of the meadow.

2.3.2 Research, Survey, Monitoring.

Butterfly monitoring has taken place since 1995. Transects are walked weekly from April to end September. Data and graphic results in *Appendix 5*.

No other monitoring has been undertaken except counting of ladies smock plants in a specific area. Potential for further monitoring and surveys exists as described in 5.5.

2.3.3 Conservation management already achieved:

The Middle Street Meadow Conservation Group was set up in February 1994 with the aim of working with the Council to improve the management of the meadow in order to increase public enjoyment and enhance its value for wildlife.

Initial plans:

1. To encourage the local community to take an active interest in the future of the meadow.
2. To promote sensitive management of the grassland to encourage flora and fauna of traditional meadows.
3. To restore the hedge by removal of dead elms and replanting with native hedgerow trees and shrubs.
4. Planting of additional trees and shrubs to screen houses and provide habitat for birds.
5. To increase the variety of wildflowers by planting plugs into the grass sward.
6. To reseed a section of the chalk bank with a suitable grass and wildflower mix.
7. To construct a board walk across the watermeadow ditch at the eastern end.
8. To provide notice boards for public education and information.
9. To produce an explanatory leaflet.

During the first year of the project a grant of £1900 was received from English Nature under their Community Action for Wildlife scheme. This together with funding from the Council for tree felling and fencing along the hedge enabled most of the above plans to be achieved in the first year.

A new contract for the management of the grassland was drawn up with the Council in 1995. Cutting was to take place in mid-July and late September with all cuttings removed from the site. The paths were to be mown throughout the summer to enable people to walk freely round the meadow.

The reason for the timing of the summer cut in July was to allow the flowers to set seed as much as possible while reducing the fire risk which would result from long, dry grass during the school summer holidays.

The Autumn cut was to produce a short sward in the winter to give the flowers less competition the following Spring. An early Spring cut is not feasible because a wet winter would prevent heavy machinery from entering the field early enough in the year.

Problems have been experienced with the grassland management with regard to the machinery used for cutting and the removal of the cuttings. The surface of the meadow is very uneven and heavy machinery has caused considerable disturbance of the soil resulting in increased weed growth. The cuttings have not been adequately removed so nutrient enrichment has continued, particularly in less accessible areas.

The contractors have changed during the three years since the project was set up and satisfactory results have yet to be achieved.

Public consultation took place prior to the start of the project. All local residents within the vicinity of the meadow were asked to complete a questionnaire and from the responses received a conservation group was formed. The project proposals were presented at the Annual General Meeting of the Harnham Neighbourhood Council in September 1995 and received general support.

Active public participation was encouraged in the planting programme and work days continue to take place as necessary.

Information posted in the noticeboards has kept the public informed of all plans for the meadow. The aims of conservation management and enhancement are explained and monthly 'Nature Notes' describe some of the wildlife to be seen. A public Open Day was held in the summer of 1996 when guided walks and children's activities took place.

3. EVALUATION.

The importance of the meadow ecologically lies in the fact that it is part of a corridor of natural sites along the River Nadder and is adjacent to the Nature Reserves of Nadder Island and Harnham Water Meadows. The river is part of the Avon River System SSSI designated in December 1996 and a proposed SAC.

The margins of the river and its banks provide an important habitat for otters and water voles, both species are included in the draft Wiltshire Biological Action Plan. The development of stands of reed along the river over the last decade has also provided a valuable habitat for birds including reed warblers and water rail. This is a rare habitat in the county.

Evidence of old water-meadow ditches remain and contain some interesting flora, Yellow Iris, Water Avens, Marsh Marigold, and Water Mint.

Because of the chalk bank constructed as part of the area flood defences the water table in the meadow has been altered which will have had an effect on the grassland vegetation. According to local knowledge the meadow has not been ploughed or artificially fertilised. Nutrient enrichment has occurred due to management methods used since the meadow was donated to Salisbury District Council, this involved cutting too early in the season and leaving grass cuttings to rot on the ground. Since a change of management in 1995, allowing plants to flower and set seed before the first cut, there has been a noticeable increase in numbers of butterflies and other insects. Removal of cuttings is the most important aspect of grassland management and only over the course of time will improvement in floral diversity occur as nutrient levels diminish. Monitoring the effect of change over time would be valuable.

The status of the meadow as a public open space means that it is subjected to considerable pressure of use. But this also provides opportunities for public appreciation of nature and provision of a tranquil area within the city limits.

4. MANAGEMENT POLICY.

4.1 The prime purpose of the meadow is for public enjoyment. Management should therefore not restrict but enhance this objective. Improving the quality of the grassland to increase the wildflowers, planting of trees and shrubs to provide cover and nesting sites for birds and the provision of seats in quiet locations will add to public enjoyment while enhancing the value for wildlife.

4.2 Main management objectives:

Habitat and species management:-

- Grassland management
- Tree and shrub planting.
- Hedgerow maintenance.
- Creation of pond or restoration of ditch.

Visitor services, interpretation and education:-

- Mowing of grass paths to allow people to walk freely round the field.
- Provision of information and wildlife observations in the noticeboards.
- Open days and guided walks as appropriate.
- Use by local schools and college.

Estate Services and administration:-

- Management by the Parks Department, Salisbury District Council in consultation with residents conservation group.
- Work carried out by contractors and conservation group.
- Machinery to be used to include cutters, bailer, strimmers.

Research, survey, monitoring.

Study of the effects of grassland management methods on the flora.

Monitoring of the effects on butterflies, insect life, small mammals and birds.

Water vole survey.

Otter watch.

5. MANAGEMENT PRESCRIPTIONS AND OPERATIONS

5.1 Habitat and species management

5.1.1 Grassland management.

Aim to increase species diversity by:-

1. Cutting after most plants have flowered and set seed.
2. Reduce fertility by removal of cuttings.
3. Introduce additional species by planting plugs into the grass sward.

Two cuts a year are required. The first in the 3rd week of July before the start of the school holidays, the second in September or early October.

Machinery recommended would be an agricultural hay cutter for the open areas and an auto-scythe or blade cutting machine rather than a flail for the areas which cannot be cut by agricultural machinery. This cuts the vegetation cleanly and makes removal of the hay easier. The hay can be left to dry in the sun before being baled or raked up and removed. If a flail is used the cuttings should be removed at the time of cutting as one process. The length of cut should be 6 inches.

Some areas should remain uncut to provide overwintering habitat for invertebrates and small mammals as well as seed heads for birds. For suggested area see *map Appendix 6*. This area should be cut every 3 years.

The chalk bank should be strimmed once a year in Autumn and cuttings removed. Heavy machinery should not be used as it cuts up the bank, exposes the soil and encourages the growth of annual weeds as well as docks and nettles.

The grass around the base of trees, along the hedge and in the shrub areas should not be strimmed. This has caused damage to the bark of the majority of trees and shrubs planted since 1995. This damage results in death of the tree/shrub or stunted growth. Any necessary cutting will be done by conservation volunteers. Long grass in these areas will also provide habitat for wildlife.

Only when satisfactory management has been achieved will any further introductions of wildflower plugs be considered.

Path mowing should take place monthly from April to October. Main paths to a width of approx. 1.5 metres and minor paths 1 metre. This includes a strip immediately adjacent to the fence behind the gardens in Constable Way. See *map Appendix 6*.

5.1.2 Wetland management.

The ditch at the eastern end is choked with sedge. Strimming of a section of this ditch on either side of the board walk should take place in Autumn. The cuttings should then be raked off and this will currently be undertaken by the conservation group and used as a mulch around shrubs. Care should be taken not to damage nearby trees when strimming.

Providing a wetland habitat by dredging a section of the ditch would be beneficial but would only be undertaken following public consultation and approval.

5.1.3 Trees and shrubs.

Some additional trees and shrubs will be planted to replace those which have been lost, and to enlarge the shrub areas and thicken the hedge. Only native species suitable for the habitat will be planted. Grass around the trees and shrubs and along the hedge should not be cut.

5.1.4 Hedge.

The face of the hedge on the road side is cut annually. This should be done in winter (Oct-Feb) to avoid disturbance of breeding birds. Otherwise the hedge is unmanaged allowing trees to grow. It may be necessary to carry out some management in future years especially of the elder which becomes 'leggy'. A 5 year inspection should take place and any necessary work carried out. It is possible that by selectively coppicing the elms in the hedge as they regenerate, Dutch elm disease could be controlled. Some planting will be necessary to fill any gaps.

5.2 Visitor services, interpretation and education.

Information regarding management, wildlife and work days will continue to be displayed in the noticeboards.

An up-date of the original leaflet could be produced at a future date when goals have been achieved.

A permanent interpretative board would be valuable.

A group of ' Friends/Supporters of Middle Street Meadow' could be set up which would gain support from a wider public than the Conservation Group. The latter would continue to carry out the conservation work.

Guided walks, Open days and children's activities could be arranged on an occasional basis.

5.3 Research, monitoring and survey.

Monitoring the effects of the grassland management should be undertaken to ascertain the effects on plant diversity and insect populations. Butterflies would be suitable as indicator species and surveys already underway could be continued.

As the number of sites in Salisbury managed for their wildlife value increases the meadow could be held up as a successful example of managing for wildlife and people. An employee with an environmental brief and an interest in wildlife management could be usefully employed in supervising the work on sensitive sites.

Monitoring of water vole populations would contribute to the national survey and county records..

APPENDIXES.

1. Location map.
2. Flora 1995.
3. Grasses.
4. Birds.
5. Butterflies.
6. Management map.

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