

Chelmer Valley Local Nature Reserve

Management plan

2021 to 2026



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1.1 – Site location and boundary

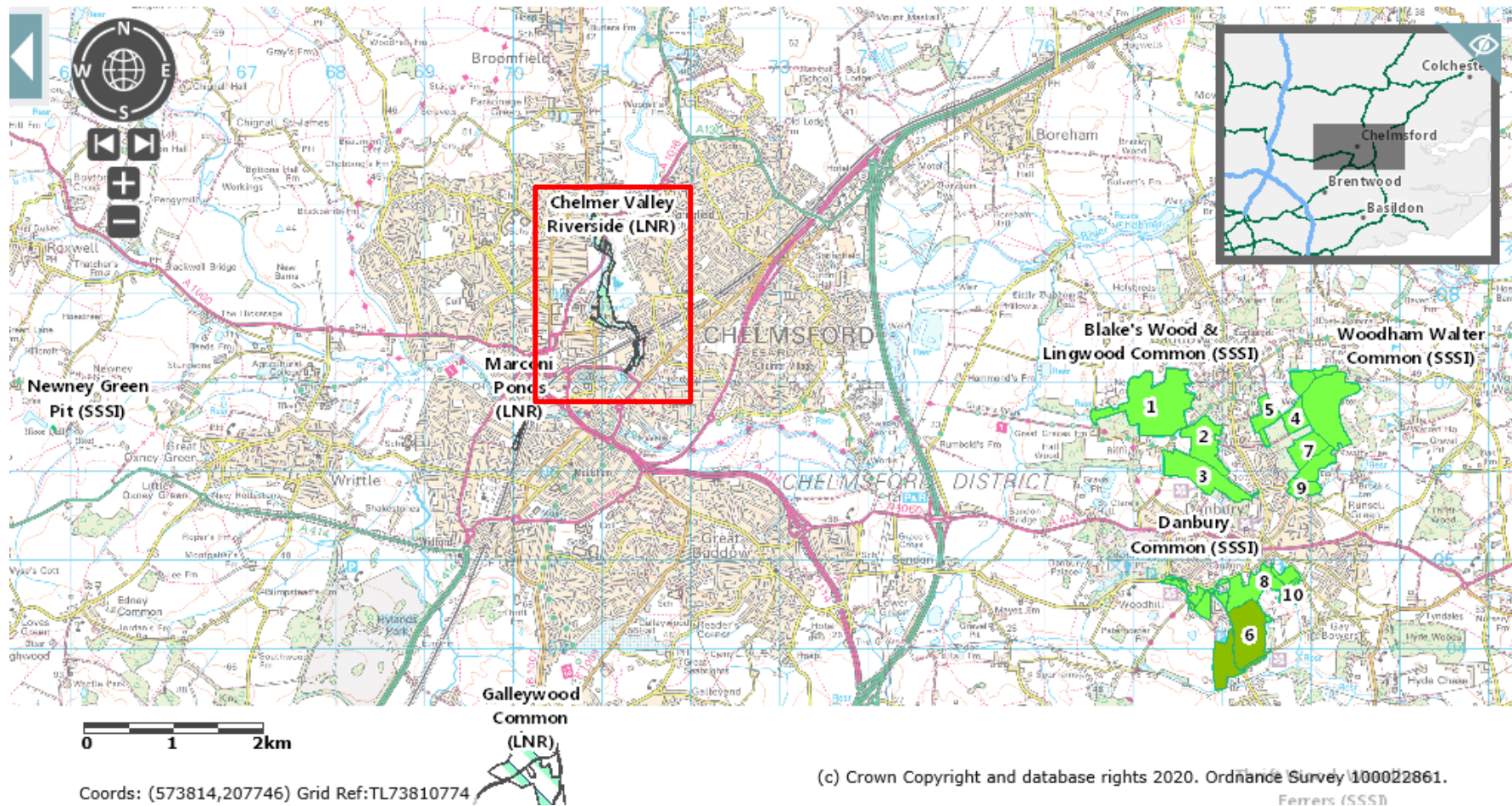
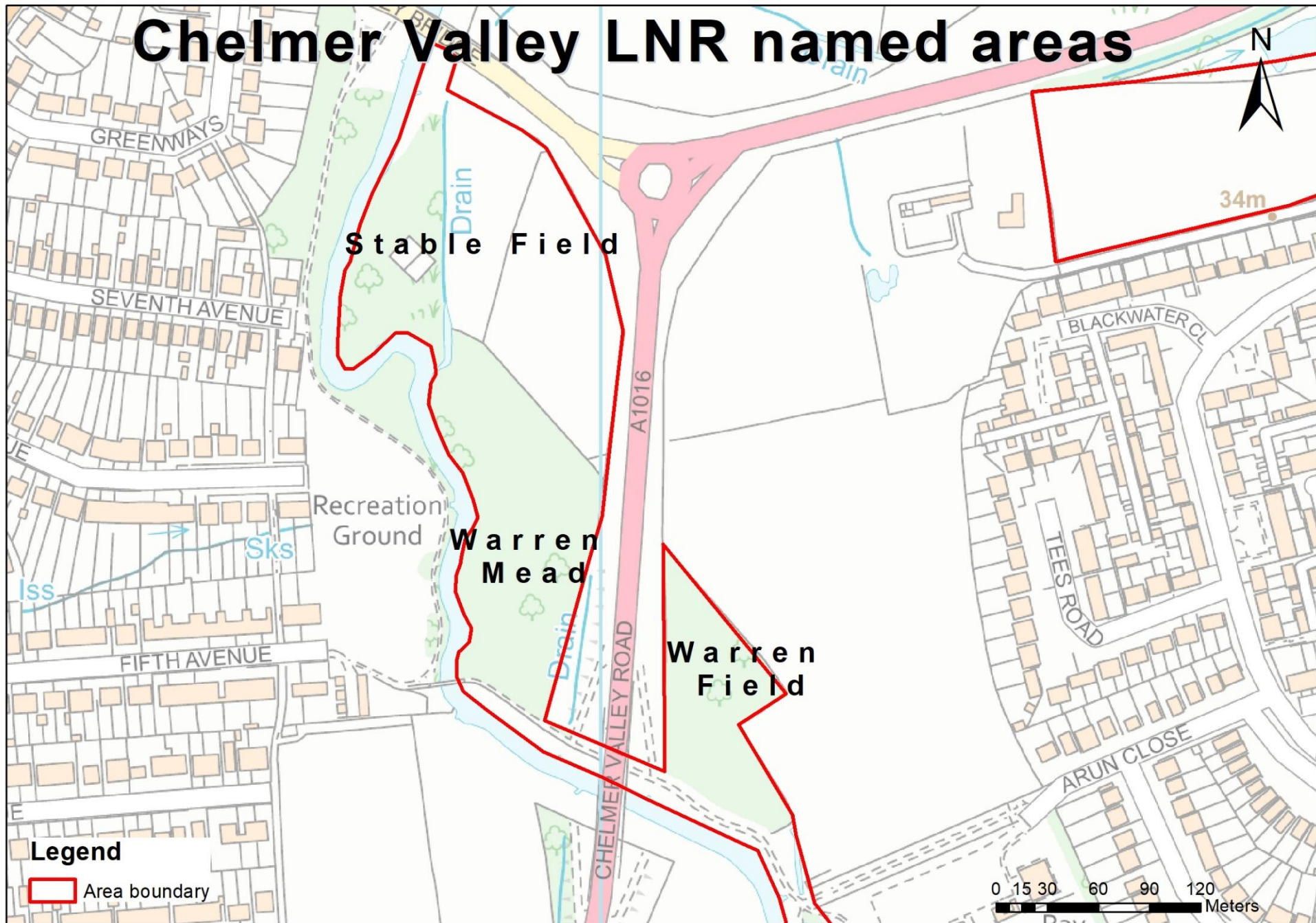


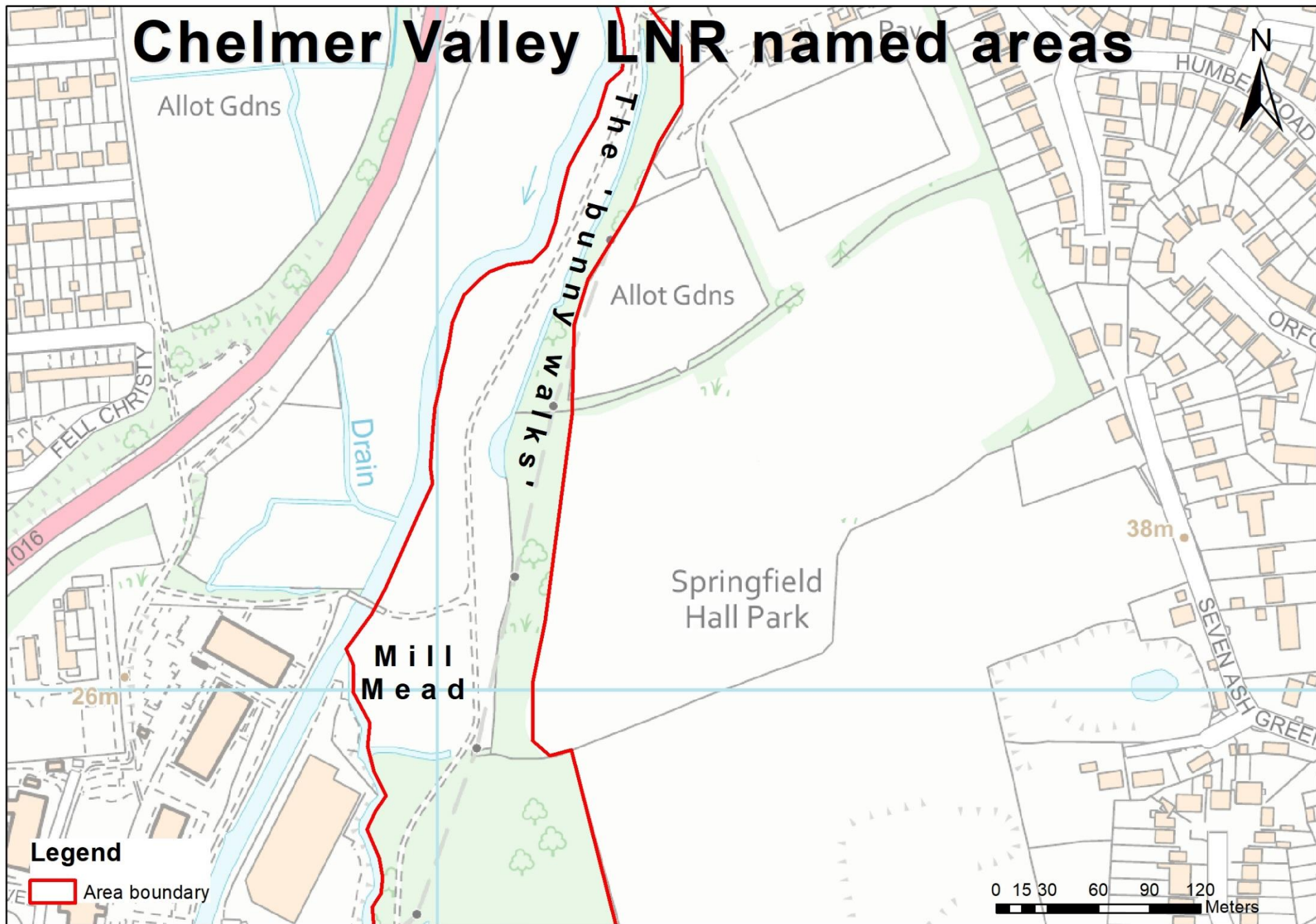
Figure 1: Chelmer Valley Local Nature Reserve, Chelmsford. (Magic Map, 2020).

Chelmer Valley Local Nature Reserve (LNR) is located on the banks of the River Chelmer and it runs approximately 2.5km from Valley Bridge in the north to Victoria road. Figure 2, 3, 4 and 5 show the boundary of the Chelmer Valley LNR as a linear feature along one bank of the River Chelmer. Figure 1 shows links to other designated nature reserves in the local area, Chelmer Valley LNR along with the River Can and railway line form important corridors for people and wildlife to move into and out of the city and between isolated patches of habitat. Swans Pasture boundary is shown in figure 6, approximately 300m away from the Chelmer Valley LNR.



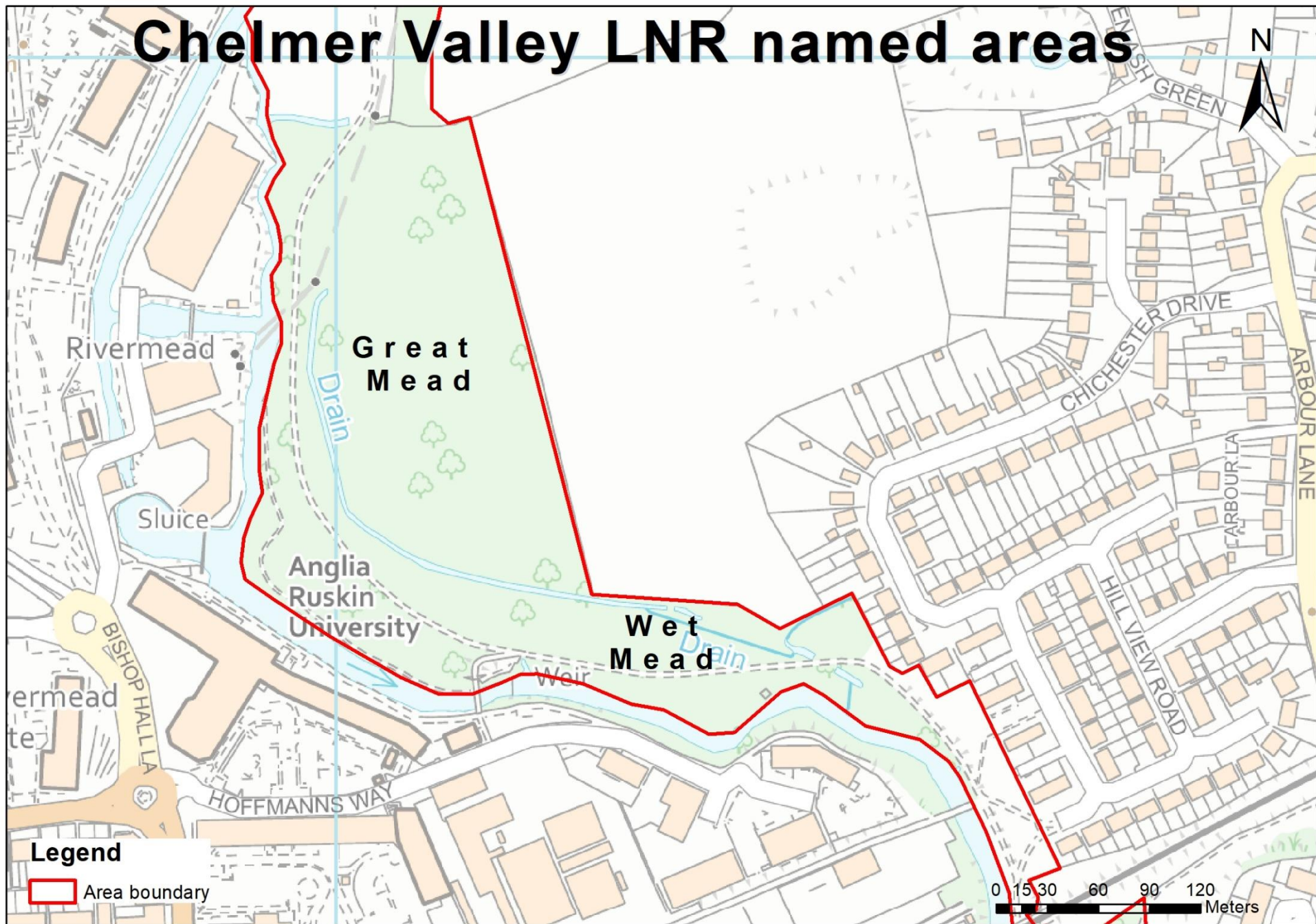
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Figure 2: Map showing Chelmer Valley LNR boundary 1.



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Figure 3: Map showing Chelmer Valley LNR boundary 2.



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Figure 4: Map showing Chelmer Valley LNR boundary 3.

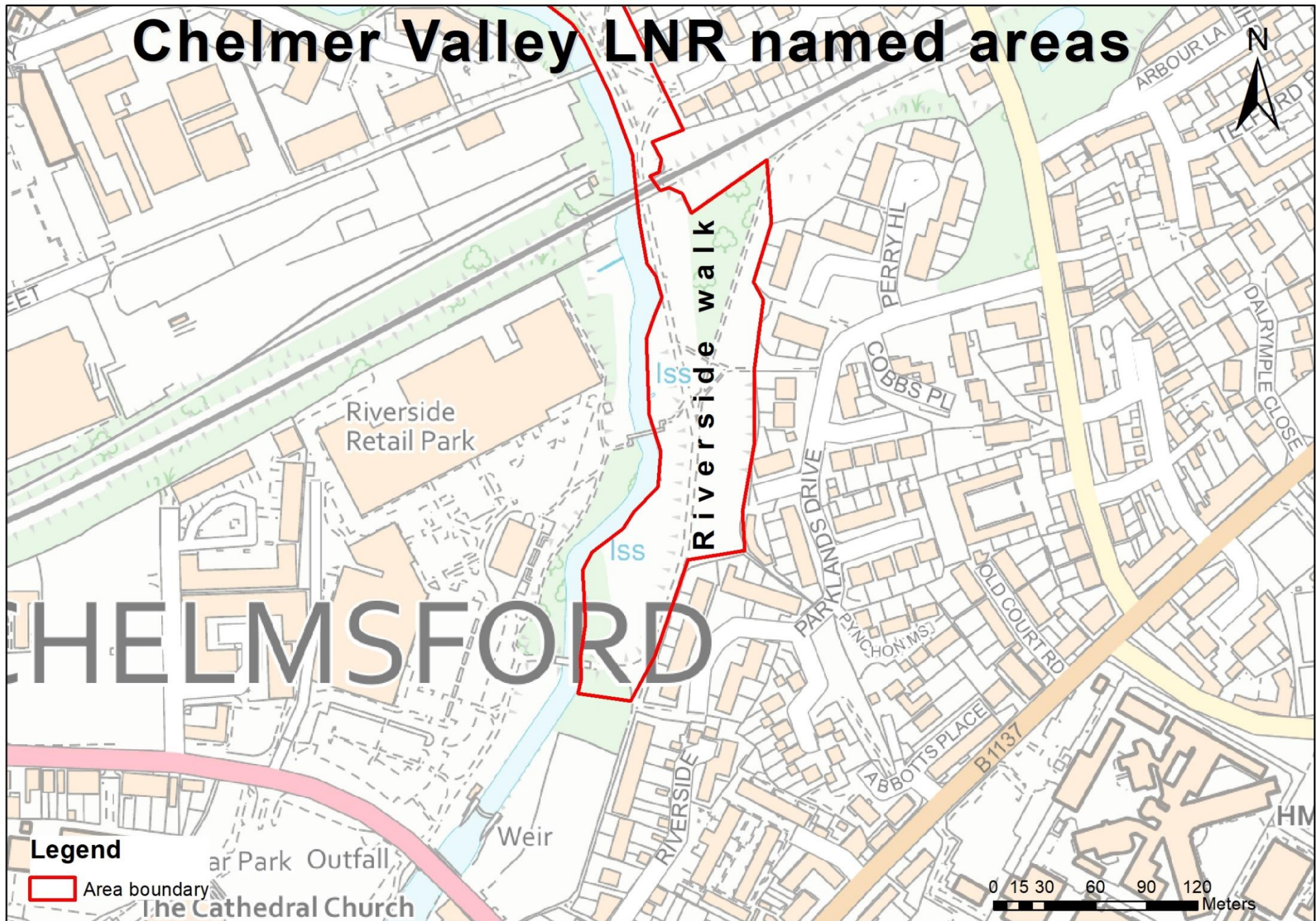
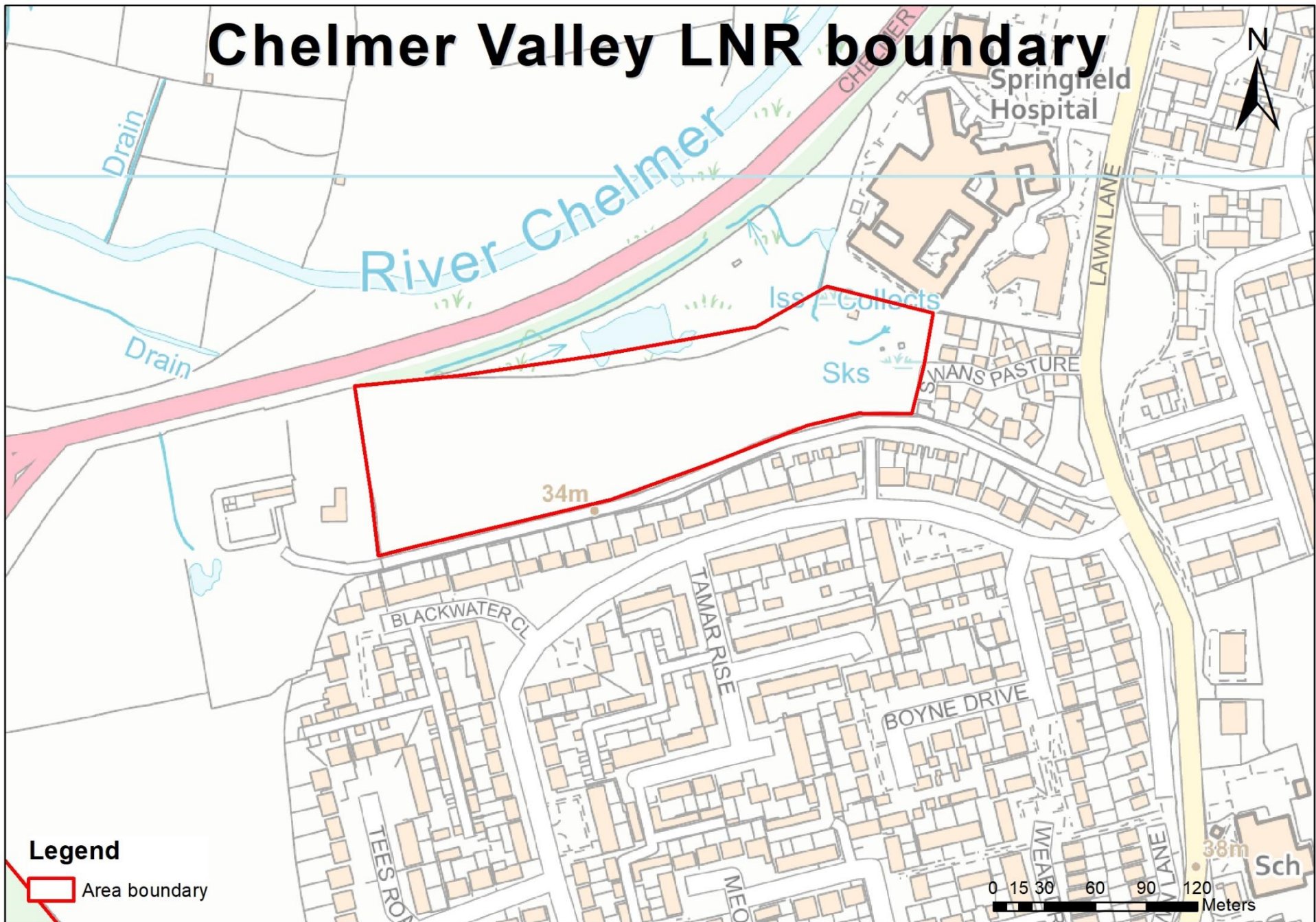


Figure 5: Map showing Chelmer Valley LNR boundary 4.



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Figure 6: Map showing Swans Pasture boundary.

3.0 Site Evaluation

3.1 Site in context

The LNR forms the southern section of the Essex Wildlife Trust's Upper Chelmer Living Landscape area and is the only fully accessible part of the riverside north of the city centre. The Council has taken the opportunity to improve habitat linkages to nearby sites upstream of the Nature Reserve through the improved management of Swan Pasture and the northern section of Springfield Hall Park. The site is also important in connecting other habitats together, including the farmland outside Chelmsford to woodland and farmland out towards Maldon for birds, bats, mammals and insects.

3.2 Habitats

Since the site was declared as a Local Nature Reserve there has been extensive management and habitat restoration works undertaken. A key objective has been to more clearly define the various habitat types and to manage them appropriately. This has particularly focussed on restoring the grassland in the north of the site, improving the quality of the wooded areas and developing better wetland habitat. In addition to these priorities the ponds have also been focused on for improvements to increase their value for wildlife.

3.2.1 Grassland

The grassland on site includes some areas of good quality neutral grassland, particularly in Stable Field and the northern part of Great Mead. Great Mead has been kept open largely by rabbit grazing in this area while Stable Field has an annual cut in September with the cut material removed from site.

Stable Field has been the focus of much effort since 2005 to remove scrub and young trees that had established in large areas of the site.

Additional work is still required to remove small scrub, regrowth from stumps and developing bramble.

An area of sea aster in the centre of the field is a major problem as it is proving to be highly invasive and out-competes other species. In addition, a smaller area of grassland is present to the west of the large area of stable field which requires some enlargement through scrub removal. A newly planted area of grassland has been sown with a mix of tussocky grasses in what was the access track for the substation which will hopefully develop into a good habitat for reptiles.

The remainder of the grassland within the site is species poor and significant areas have become dominated by stinging nettle and thistles because of the regular flooding which introduces high levels of nutrients. These areas are now cut twice a year to help reduce the nutrient levels in the soil, with arisings removed. It might be necessary to introduce seed of more competitive wildflowers once the other dominant species have begun responding to the management.

There are opportunities to increase the quantity of species-rich grassland by introducing wildflower seed into areas of poorer quality grassland such as in Riverside Walk. This area is currently managed to try to reduce soil fertility by cutting and removing arisings annually in the autumn. A detailed



survey of Swan Pasture should be undertaken to determine if additional seeding would benefit this grassland.

In 2016 management of the northern section of Springfield Hall Park was changed to allow longer grass to develop to enable the site to be used as a slow-worm translocation receptor. This improves the habitat connectivity between the LNR and Swan Pasture. The grazing land on the western side of the river and immediately to the north of the site is owned by Essex County Council and is also part of the Local Wildlife Site. It should be an aspiration to seek to include this land as part of the LNR to enable its management to be improved.

3.2.2 Wetland habitats

The river has been heavily modified over centuries with deep, straight-sided channel and sluices and other structures significantly reducing the rate of flow. This results in a slow-moving, heavily silted river with large quantities of emergent vegetation growing within the channel. Past dredging has resulted in raised banks particularly along the western side of the river. This affects the function of the surrounding land to store flood water and to subsequently drain. Works were undertaken by Essex Wildlife Trust in spring 2016 to create a series of breaches in the bunds. Opportunities to undertake further works to restore the rivers natural functions should be identified and funding sought with the support of Essex Wildlife Trust and the Environment Agency.

1) Ponds

There are four original ponds on the site (shown in figures 7, 8, 9, 10 and 11) although the one in Warren Mead does not currently hold water. Investigations into linking this to the river channel through a pipe should be carried out. The one close to the Arun Close entrance and the one adjacent to the railway viaduct were dug out in 2006 and 2012 and should be dug out again in the near future. The one on the Bunny Walk has had little work on it although ditches feeding into have been dug out in the past which has helped maintain water in the pond for longer.

In 2008 4 small seasonal ponds were created along the main ditch running through Great Mead. These hold water for part of the year the weirs should be improved to keep water in them longer further weirs should be considered, and the original ones be restored. The vegetation in these areas includes species such as Purple Loosestrife and Spiked Sedge.

2) Ditches

The remaining ditches have had limited management over time, and most are heavily silted or enclosed by dense scrub, in each case limiting their ecological value. It is proposed to cut back the scrub to continue opening up the channels during this plan period. At the southern end of the site, on the bank opposite the Riverside Retail Park is the largest marsh area remaining on the site. It is dominated by stinging nettle and bramble although there are areas of pond sedge. Little management has been undertaken in this area; however, in spring 2011 dead vegetation was cleared from part of the area by volunteers. At present it is not seen as a priority for further works. Himalayan balsam in the area must continue to be controlled through cutting to limit it dominating this area.

3.2.3 Wooded areas

The wooded areas were planted in the late 1970s and early 1980s using predominately Hybrid Poplar, Grey Poplar, Willows and Lombardy Poplar (shown in figures 7 to 11). While these are fast growing species that provide valuable screening of neighbouring developments a number of factors including the widely spaced planting, the lack of diversity, an even age structure and the practice of mowing between trees in some areas meant that most were not developing as woodland. Additional tree planting has been carried out in all of the main woodland blocks since 2005. It has been challenging to get some of these planted trees to establish and in some places they have failed. In some cases, small groups of poor-quality existing trees were felled to create large planting blocks. This will need to be considered if future planting is to take place.

Ash was a principal component of the planting mix for the original planting but in recent years this has not been included. It is likely therefore most of these Ash trees will die as a result of Ash Dieback. While other species such as alder and hazel are also present ash is the predominant species and its loss will result in a significant impact on the woodland composition. This is a key reason why it is important to replace these potential losses before they happen.

The Hybrid Poplars on site are becoming very large and are reaching maturity. It is important that there is a programme to remove these trees and replant with a mix of species. Those closest to the main paths should be removed first due to the risk of failure. Two native Black Poplars have been planted between the river and edge of Warren Mead.

3.3 Interpretation and education

The site is ideally situated to provide a range of public activities and educational opportunities. In 2011 new interpretation panels were erected by the Fifth Avenue footbridge and ARU. A leaflet was developed and was available from dispensers beside the panels although these are no longer being produced. The use of the site for education visits is limited due to a number of factors. There is a lack of facilities such as toilets or shelter on site. The site is open to the public and is well-used by dogwalkers. There is only limited availability of staff to lead activities on site. There are a number of primary and secondary schools within a short walk of the site that could make more use of it if it were better promoted.

3.4 Public access and use

The surfaced cycleway creates an accessible route linking the residential areas in north Chelmsford to the city centre. This ensures that it is well-used by people passing through the site throughout the day all year round. The site is also well-used for informal activities such as dog walking. Currently the mix of paths together with the availability of dog waste bins means that the site is generally well used without significant issues.

3.4.1 Constraints

Pylons, overhead lines and other services During 2016 work has been carried out north of the substation adjacent to Stable Field to remove the pylons and install the electricity cables underground. Sections of overhead lines that ran the length of the Bunny Walk were buried in 2009. There are overhead lines running east-west to the north of the ARU and along the eastern boundary of Warren Mead. These wayleaves need to be maintained to be free of trees. There are sewers running through the site. One in Great Mead is prone to overflowing and needs to be monitored. Other pipes run through the Bunny Walk. All of the services should be plotted to ensure that the wayleaves are retained.

Ash Dieback and other diseases Ash is one of the most common species in the LNR and has been a key component in the planting schemes since 2005. There is clear evidence that trees within the site are succumbing to Ash Dieback. There are regular reports of other diseases affecting other tree species. These need to be monitored and action taken as required. It is important that there is a programme to plant replacement trees within the plantations. It is recommended that a mix of species including alder, hornbeam, oak and field maple should be used to reduce the risk of other diseases having such a dramatic effect on the site. There are some sycamores on site. These should be retained at present as they occupy a similar ecological niche to ash.

Currently the site does not contain Japanese Knotweed or Floating Pennywort however it is vital that monitoring is undertaken for these species. There are patches of Himalayan Balsam along the river bank. These are not dominant and volunteers are used to remove these where it is safe to do so. It is important that the riverbanks continue to be monitored to ensure that it does not establish further within the site. Giant Hogweed has been recorded in the Bunny Walk area in the past. The plants

have been removed to prevent them injuring the public. Monitoring should occur to ensure that this species does not re-establish. Sea aster has become a significant issue within Stable Field where it has come to dominate the typical grassland species. Control measures include cutting the field before the plants have finished flowering to reduce seeding and by hand-pulling plants in sensitive areas. In 2015 herbicide was applied across the site to kill the plants off. This did prove beneficial as it resulted in a more diverse mix of typical grassland species in 2016.

4.0 Management vision The LNR is part of a larger collection of sites that follow the river valley into the north of the City which include Swan Pasture, Springfield Hall Park and Essex County Council land to the west and north of the site. The Council is now managing its adjacent sites in an integrated manner to deliver more significant biodiversity benefits, address water management issues and improve recreational links. It is trying to ensure that the ECC is also managed appropriately to improve the biodiversity opportunities and also to enhance their visual appearance. Management Objectives

- to achieve a consistent management regime for the whole site to improve its value for biodiversity
- enhance the quality of the grassland throughout the site
- improve the age structure and species diversity of the plantations
- to achieve a balance between managing for biodiversity and for recreation and amenity
- to actively involve the local community in managing the site
- to use the site for education purposes

4.1 Site Maintenance arrangements and standards The management of the Chelmer Valley Local Nature Reserve is principally informed by its designation as a Local Nature Reserve and seeks to maximise its biodiversity value. It is a strategically important, well-used public open space with high numbers of people using it every day. It is vital therefore it is well managed in the most sustainable way to maximise its value for visitors while minimising the environmental impacts on management.

4.2 Maintenance Regimes Chelmer Valley Nature Reserve is managed by Chelmsford City Council (CCC) Parks Services. Specifically it is the responsibility of the Parks & Green Spaces Manager, who is supported by the parks management team. This team is responsible for the day-to-day management of the reserve including all aspects of customer services within the site, to visitor information and welfare, public relations, marketing, promotion, and special event planning. The Grounds Management Service undertakes landscape maintenance work under the terms laid down in the works specification. All maintenance operations are run through a 'confirm' computer asset management system. All work is instructed according to the park management's requirements. This system generates a monthly instruction sheet detailing the routine maintenance operations required in particular areas of the park. The Grounds Maintenance Supervisor can then adjust the frequencies and timing of those operations to account for any seasonal fluctuations etc before issuing it to the ground staff. Any operation or repair, which is not 'routine' is detailed in a variation order/instruction also linked to the database system. Grounds Management Services employ 58 staff who are trained to the appropriate horticultural skills levels. Staff are encouraged to partake in internal and external training to gain recognised qualifications.

4.3 Tree and forestry works The Arboricultural and Conservation Officer is responsible for the council's tree stock and issues instructions to private tree surgeons for any works required, be it tree maintenance works or safety work within the LNR. The tree stock within parks Services remit is now monitored on new tree management software 'Tree Wise'. The trees in the LNR are inspected on a regular basis by the Arboricultural Officer. It is important that the trees are maintained in a safe condition and any safety works required are highlighted by inspection and dealt with effectively/efficiently. Park staff undertake weekly visual inspections of trees and record any defects on the general site inspection sheets in turn information from these sheets is relayed to the arboricultural and conservation officer as is deemed appropriate.

4.4 Health & Safety obligations Grounds management Services are fully compliant with all aspects of the Health & Safety legislation. Management keep various files on the subject to ensure compliance and to encourage good working practices. The Health and Safety File includes:

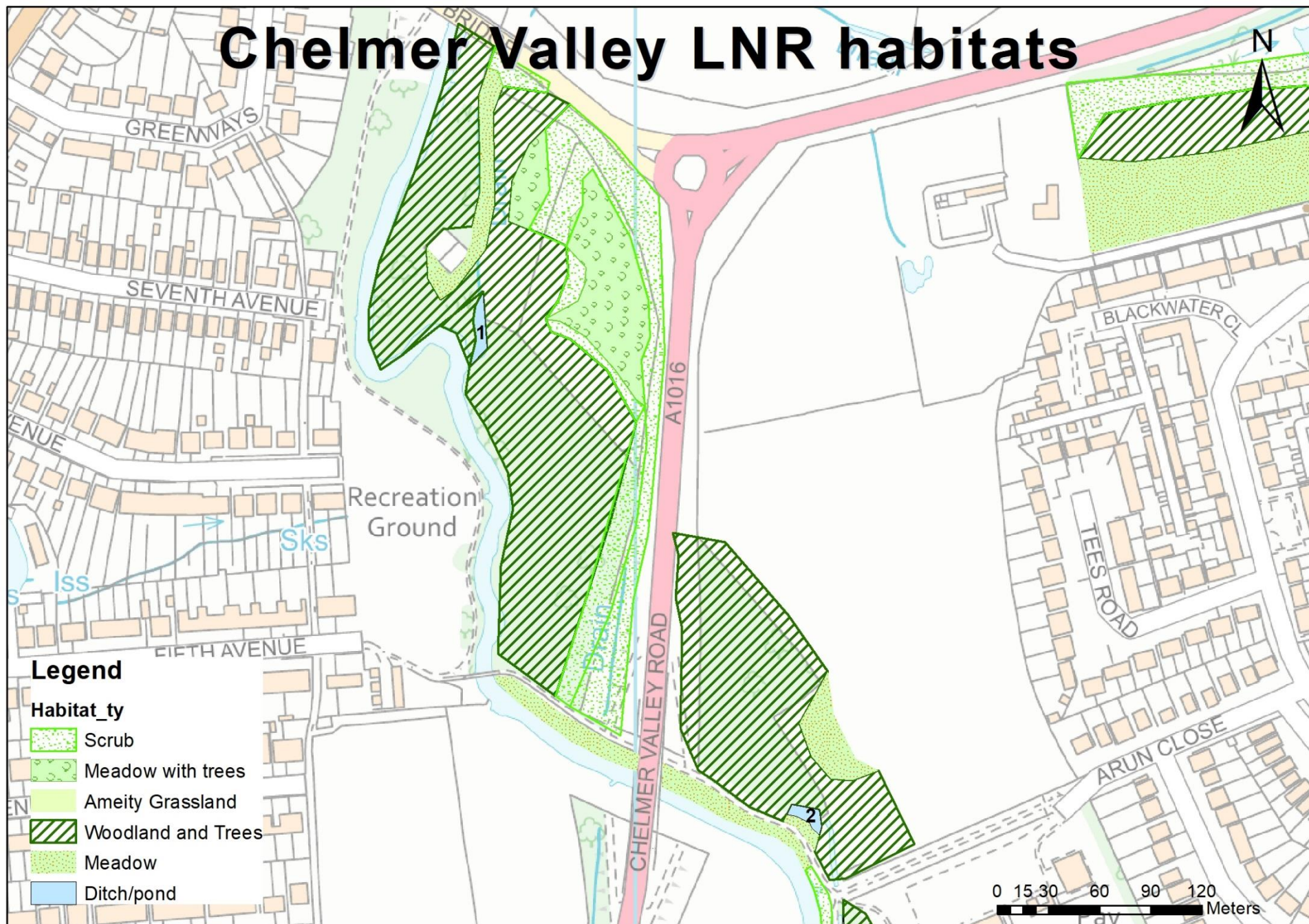
- the Safety Bulletin Register- internal memos on safety related issues.
- the Risk assessment Register- assessment of task (under the management of

Health and Safety at Work regulations), e.g. grass cutting, use of hand tools and other parks equipment, toilet cleaning etc • the COSHH assessment register -assessment of Substance used (under the control of Substances (Hazardous to Health) Regulations), e.g. weed killer, fertiliser, cleaning products etc.

the Safe Working practice Register -assessment of application, i.e. equipment pre-use checks, starting and operating procedures, repairs and adjustments etc. • Statutory test certificates • depot audits • accident reports The Risk assessment File includes: • generic risk assessments, e.g. grass maintenance, tree pruning • Site specific risk assessments, e.g., water, traffic, sharps/needles • Relevant codes of practice, e.g. grass cutting on steep banks • Sample immunisation sheet • leptospirosis card

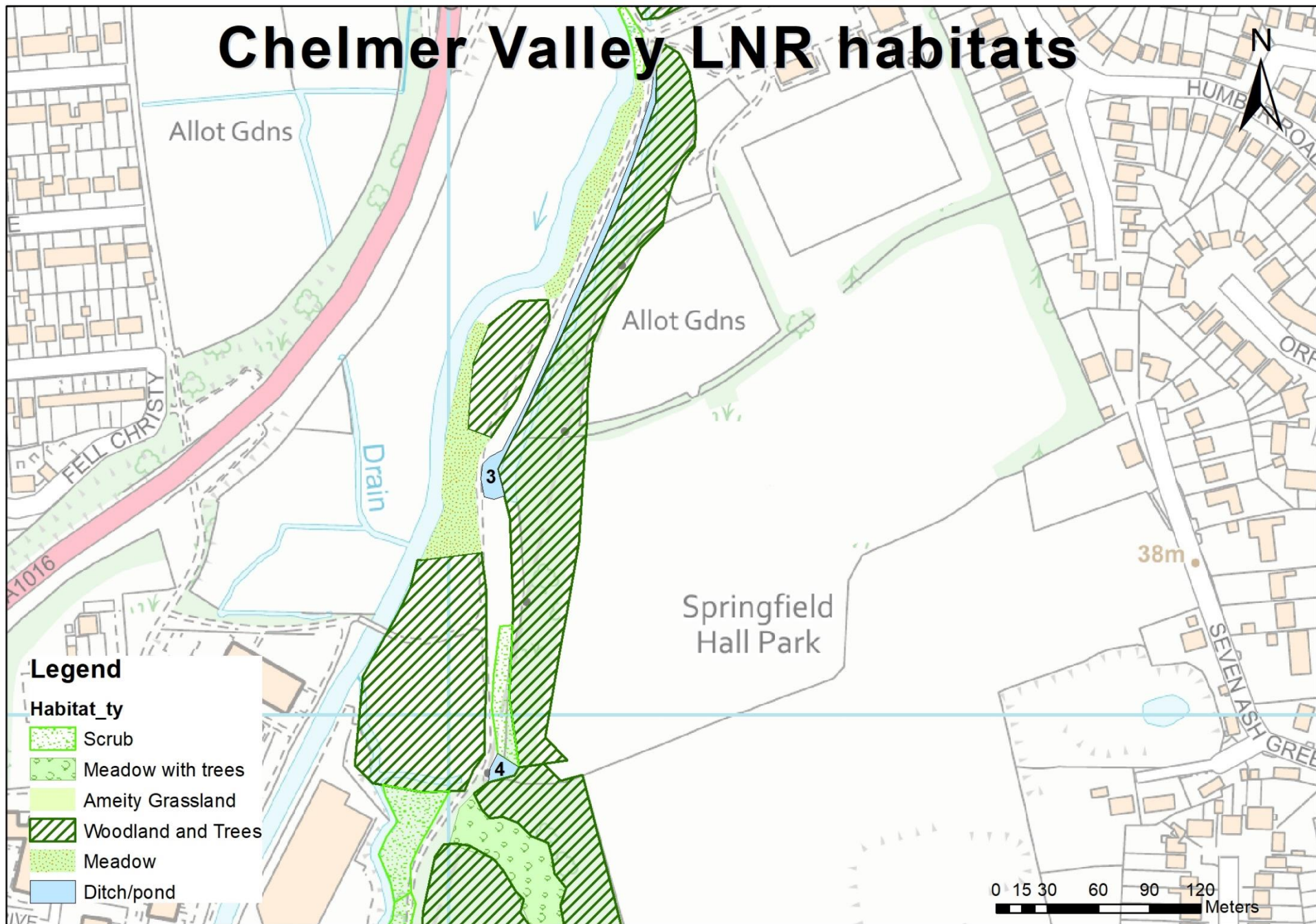
4.5 Use of tools and machinery

The Health and Safety implications for the maintenance of tools and machinery are taken very seriously. All tools and machinery are inspected and maintained according to manufacturer's guidelines. Machinery is serviced mid-season and a further full service takes place during the winter months. CCC provides all tools for the volunteer groups. These are stored the parks depot and are inspected regularly. Training for the safe use of tools and machinery All staff are properly trained in the use of specific equipment and attend courses at appropriate training centres, particularly Writtle University College. Refresher courses are also utilized when necessary. When new equipment is purchased, manufacturers are required to give training demonstrations to operatives. Volunteers are all provided with a tools safety talk prior to commencing any project. All new volunteers are closely supervised by the volunteer coordinator or experienced volunteers. Volunteers do not use any power tools or machinery



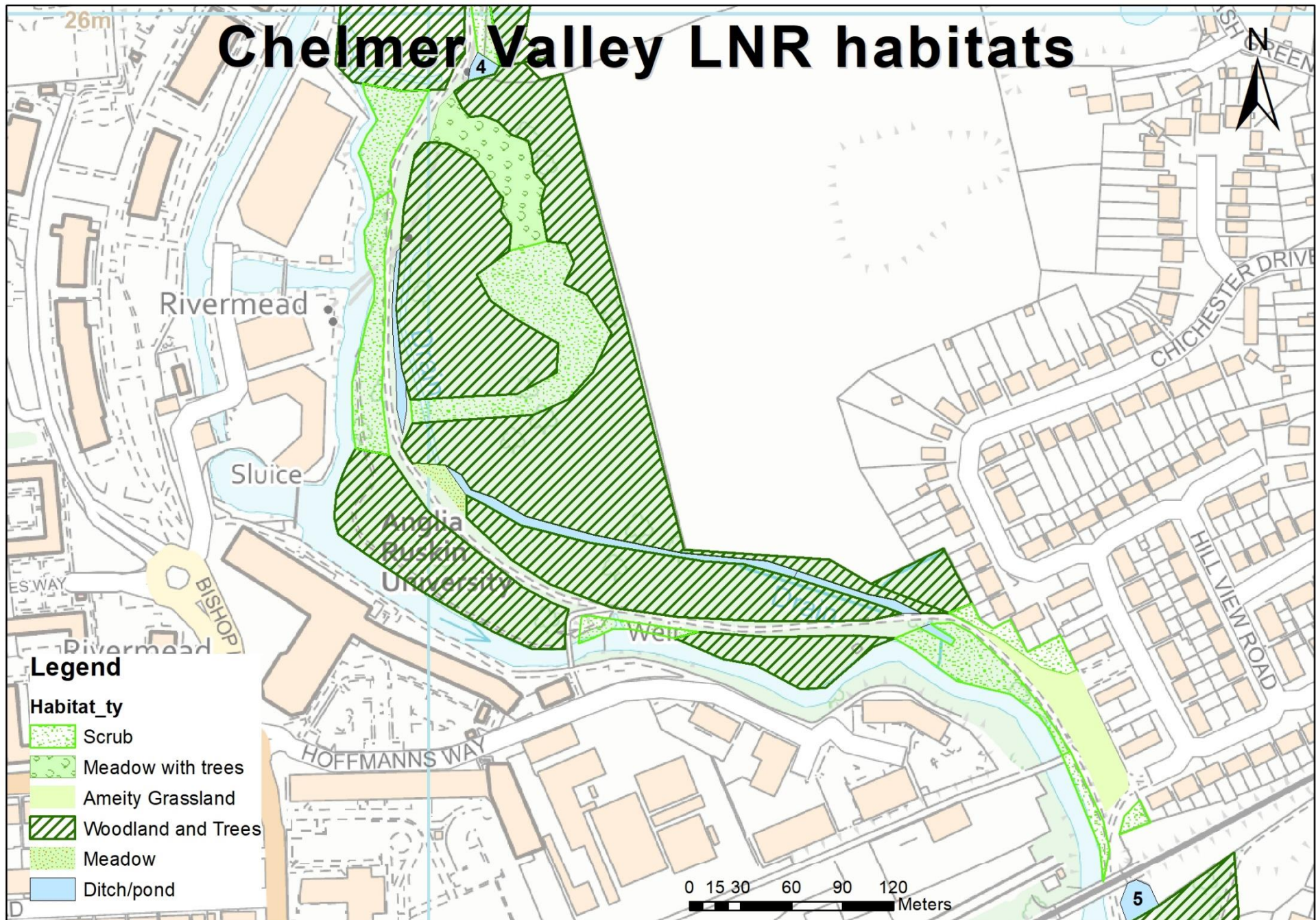
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Figure 7: Map showing Chelmer Valley LNR habitats section 1.



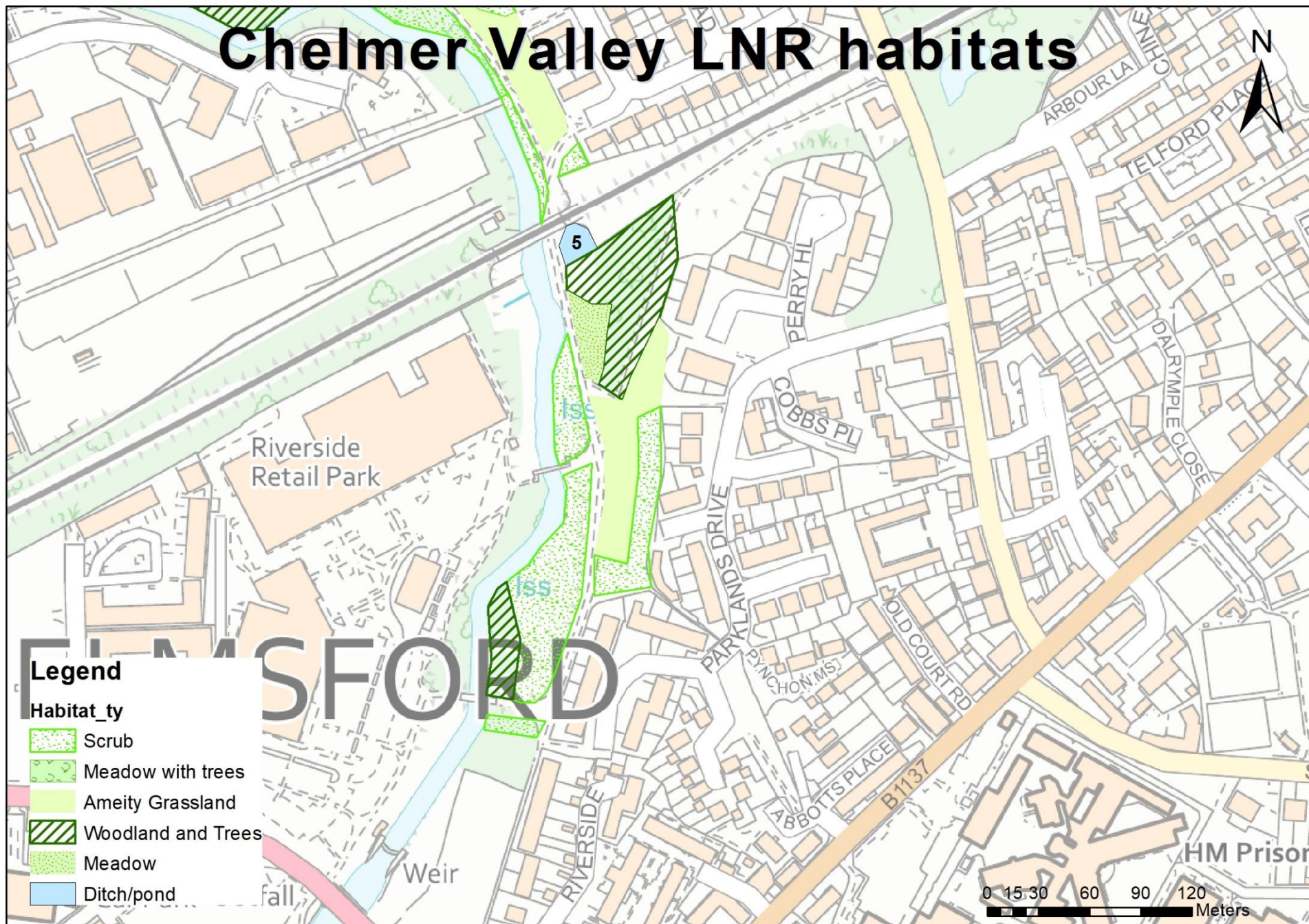
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Figure 8: Map showing Chelmer Valley LNR habitats section 2.



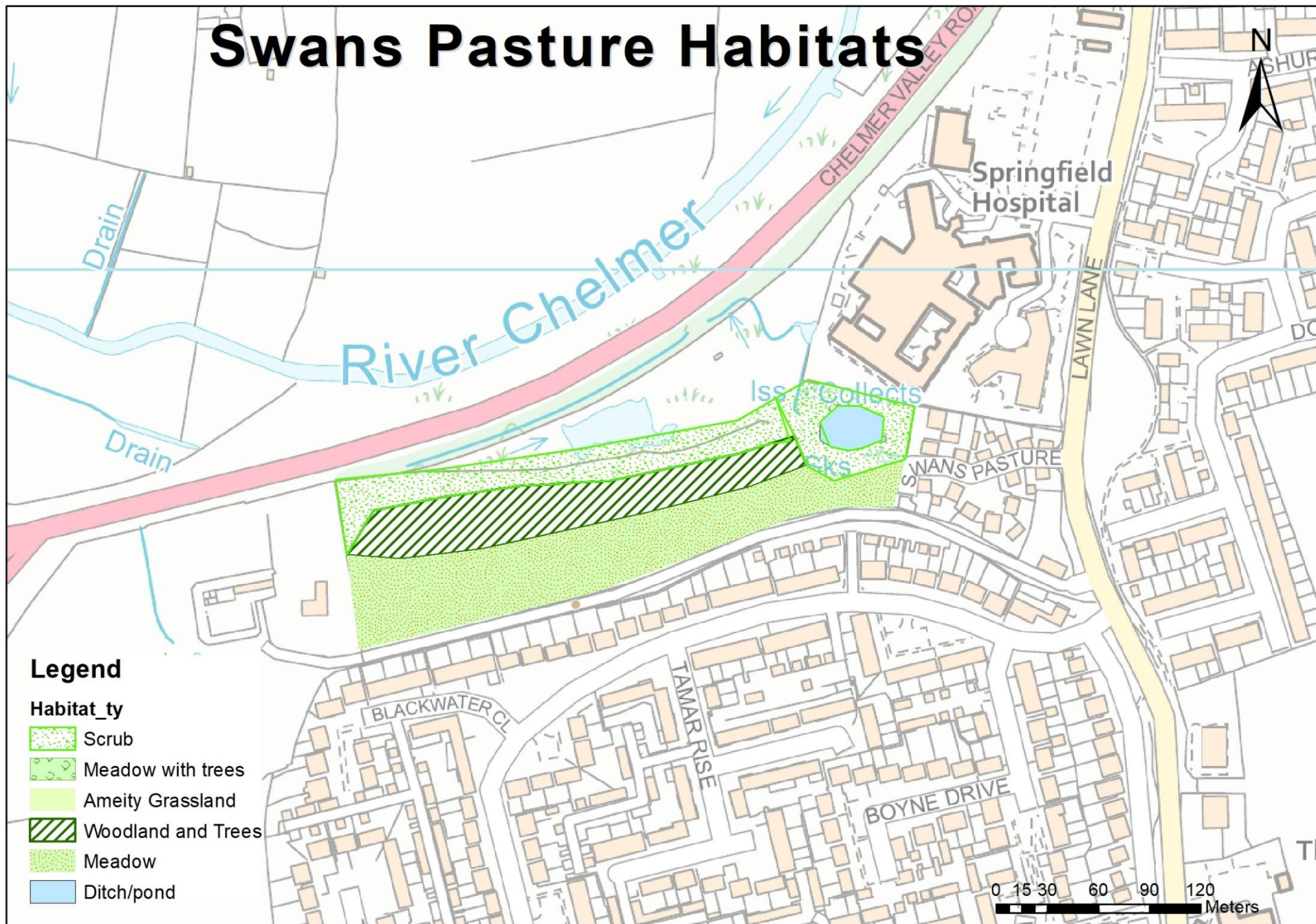
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Figure 9: Map showing Chelmer Valley LNR habitats section 3.



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Figure 10: Map showing Chelmer Valley LNR habitats section 4.



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Figure 11: Map showing Swans Pasture habitats.

6.0 Management operations

General		
Project	Who	When
Interpretation <ul style="list-style-type: none"> Review existing interpretation. Add to additional notice boards to provide interactive interpretation of wildlife. Remove all redundant leaflet dispensers. 	P&GS	2023
Access and path management <ul style="list-style-type: none"> Ensure all paths are kept clear of vegetation and open throughout the year. Monitor condition of cycleway and repair if necessary. 	Staff/volunteers P&GS/ECC	As required Annually
Ash dieback <ul style="list-style-type: none"> Monitor effects of disease on trees within the site to inform replanting programme. Inspect dying trees to ensure that they don't pose H&S risks 	P&GS	Annually

Stable fields		
Project	Who	When
Scrub management <ul style="list-style-type: none"> Continue to remove new scrub and bramble establishing within the main grassland area. Coppice Blackthorn around pond 1 and in this area. Remove and trees establishing in the grassland area and if roots are not removed treat with an appropriate herbicide 	Staff/ volunteers	Winter/Spring annually
Grassland Management <ul style="list-style-type: none"> Cut and collect grass in early October to allow for reptiles to move away and wildflower seed to drop. Remove weed species growing within the grassland e.g. Hogweed, thistles, nettles and brambles. Cut the thin stretch of meadow from the old power station every 2 years. 	Staff/ volunteers	Autumn (October/November) annually.
Woodland management <ul style="list-style-type: none"> Coppice Hawthorn and large Elder in Woodland furthest north. 	Volunteers	On going
Control Sea Aster <ul style="list-style-type: none"> Ensure areas where Sea Aster is prevalent is cut and collected before it sets seed. Volunteers to pull Sea Aster where new stands are establishing. Monitor the density of the Sea Aster stands going forwards. 	Staff/ volunteers	Annually as required
Pond/wetland management <ul style="list-style-type: none"> Pond 1 shown in figure 7 is currently dry and needs work to dig out and possibly link to the river network in consultation with the Environment Agency. 	P&GS/ Contractors	By 2026

Warren Mead		
Project	Who	When
Woodland management <ul style="list-style-type: none"> Continue process of removal of some hybrid poplars. Plant up gaps with Hawthorn, Hazel, Alder, Willow and Field maple. Maintain new planting until established. 	Volunteers/ contractors	On going

Warren Field		
Project	Who	When
Woodland management <ul style="list-style-type: none"> Continue process of removal of some hybrid poplars. Plant up gaps with Hawthorn, Hazel, Alder, Willow and Field maple. Maintain new planting until established. 	Volunteers/ contractors	On going
Grassland management <ul style="list-style-type: none"> Cut and collect area close to the river twice a year (once May and once September). Cut and collect area near pond and in Springfield Hall Park once a year in September. Remove any dominant species e.g. Hogweed, Thistle, nettle and Bramble. 	Grounds maintenance staff/ volunteers	Annually or biannually
Pond/wetland management <ul style="list-style-type: none"> Remove up to 1/3 of vegetation growing within pond 2 shown in figure 7. Organise grounds maintenance staff/contractors to dredge pond in 2023. 	Volunteers/ Grounds maintenance staff	Annually

The Bunny Walks		
Project	Who	When
Woodland management <ul style="list-style-type: none"> Continue process of thinning Field Maple along allotments. Plant Hazel and Hawthorn within the gaps. 	Volunteers	By 2023
Grassland management <ul style="list-style-type: none"> Cut and collect area close to the river twice a year (once May and once September). Once dominant species are under control sow appropriate wildflower seeds into gaps. 	Grounds maintenance staff/ volunteers	Annually or biannually
Pond/wetland management <ul style="list-style-type: none"> Cut back overhanging vegetation and remove deadwood in pond 3 in figure 8. Control emergent vegetation to ensure open water is maintained. 	Volunteers	Annually
Willow coppice area <ul style="list-style-type: none"> Continue to maintain on a rotation by coppicing. Use cut material for maintenance of willow tunnel and dome. 	Volunteers	Annually
Footpath maintenance <ul style="list-style-type: none"> Continue footpath surfacing along footpath through the woodland. Install steps or a zig-zag path from the woodland up Springfield Hall car park. 	Volunteers	By 2024
Ditch management <ul style="list-style-type: none"> Clean and improve waterflow along the ditch by removing branches and vegetation in the ditch. 	Volunteers	Ongoing
Scrub management <ul style="list-style-type: none"> Coppice scrub along the banks of the ditch and around pond 4 shown in figure 8. 	Volunteers	On going

Mill Mead		
Project	Who	When
Woodland management <ul style="list-style-type: none"> • Continue process of removal of some hybrid poplars. • Plant up gaps with Alder, Willow and Field maple. • Maintain new planting until established. 	Volunteers/ contractors	On going
Himalayan Balsam control <ul style="list-style-type: none"> • Himalayan balsam is present in this area so should be controlled by pulling before seeds have developed in June. 	Volunteers	Annually in early June

Great Mead		
Project	Who	When
Woodland management <ul style="list-style-type: none"> • Agree a programme for removing mature poplars and planting replacements. • Plant understory with native shrub species where light allows including, Hawthorn, Hazel, Field Maple, Willow, Alder and Guilder Rose. 	Volunteers/ P&GS/ Contractors	By 2022
Grassland management <ul style="list-style-type: none"> • Cut and collect grassland area in September (tractors) • Control weed species, including tree growth in this area 	Grounds maintenance staff/ volunteers	Annually
Pond/wetland management <ul style="list-style-type: none"> • Cut back overhanging vegetation and remove deadwood. • Control emergent vegetation to ensure open water is maintained. • Grade back the edges of the ponds to increase the size of the wetland area. 	Volunteers	Annually
Himalayan Balsam control <ul style="list-style-type: none"> • Himalayan balsam is present in this area so should be controlled by pulling before seeds have developed in June. 	Volunteers	Annually in early June

Wet Mead		
Project	Who	When
Woodland management <ul style="list-style-type: none"> • Agree a programme for removing mature poplars and planting replacements. • As Ash trees die in this area replant as below. • Plant understory with native shrub species where light allows including, Hawthorn, Hazel, Field Maple, Willow, Alder and Guilder Rose. 	Volunteers/ P&GS/ Contractors	On going
Pond/wetland management <ul style="list-style-type: none"> • Cut back overhanging vegetation and remove deadwood. • Control emergent vegetation to ensure open water is maintained. • Grade back the edges of the ponds to increase the size of the wetland area. 	Volunteers	Annually
Himalayan Balsam control <ul style="list-style-type: none"> • Himalayan balsam is present in this area so should be controlled by pulling before seeds have developed in June. 	Volunteers	Annually in early June

Riverside walk		
Project	Who	When
Woodland management <ul style="list-style-type: none"> Plant up any gaps with Hawthorn, Hazel and Field Maple. Ensure that trees close to the footpath are safe and any necessary work is carried out. 	Volunteers/ P&GS/ Contractors	On going
Grassland management <ul style="list-style-type: none"> Cut and collect grassland area in September with strimmers and collect by hand Control weed species, including tree growth in this area. Introduce yellow rattle into grassland to reduce the vigour of grass growth. 	Volunteers	Annually
Pond/wetland management (Pond 5) <ul style="list-style-type: none"> Cut back overhanging vegetation and remove deadwood. Control emergent vegetation to ensure open water is maintained. Grade back the edges of the ponds to increase the size of the wetland area shown in figure 10. 	Volunteers	Annually
Himalayan Balsam control <ul style="list-style-type: none"> Himalayan balsam is present in this area so should be controlled by pulling before seeds have developed in June. Himalayan Balsam could also be strimmed in early June. 	Volunteers	Annually in early June

Swans Pasture		
Project	Who	When
Woodland management <ul style="list-style-type: none"> Plant understory with native shrub species where light allows including, Hawthorn, Hazel, Field Maple, Willow, Alder and Guilder Rose. 	Volunteers/ P&GS/ Contractors	By 2022
Grassland management <ul style="list-style-type: none"> Cut and collect grassland area in September (tractors) Control weed species, including tree growth in this area 	Grounds maintenance staff/ volunteers	Annually
Pond/wetland management <ul style="list-style-type: none"> Cut back overhanging vegetation and remove deadwood. Control emergent vegetation to ensure open water is maintained. Grade back the edges of the ponds to increase the size of the wetland area shown in figure 11. 	Volunteers	Annually
Newly planted woodland management <ul style="list-style-type: none"> Control new growth around newly planted whips by pulling and putting a layer of woodchip down. 	Volunteers	Twice a year for the first 3 years