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Adapting Parks and Green Spaces for Climate Change

Date: 13 September 2021

Report of: Chief Officer Parks and Countryside

Report to: Climate Emergency Advisory Committee

Will the decision be open for call in? ☐Yes ☒No

Does the report contain confidential or exempt information? ☐Yes ☒No

What is this report about?

Including how it contributes to the city's and council's ambitions

- Parks and green spaces in Leeds already make an important contribution to mitigating climate change with around 2,500 of the 4,000 hectares of land managed for public access either natural or semi-natural. They help reduce carbon dioxide emissions as well as mitigate against the effects of extreme weather events and build more resilient habitats to help sustain species and food production.
- The climate emergency declaration has acted as a catalyst to intensify action and develop ambitious plans to plant more trees and create more resilient habitats that benefit pollinators and alleviate flood risks. This is being done in a way that improves the recreation value of those who visit and contribute to health, wellbeing and social cohesion.
- The report provides illustrated examples of how parks and green spaces are already helping to address climate change issues and in doing so enhance the experience of people who visit. In particular the ambitious plan to create 50 hectares of woodland each year over 25 years to 2045 on council land is highlighted along with the key benefits that this will bring.
- People in Leeds are passionate about their local parks and green spaces and the climate emergency declaration has already sparked considerable interest from community groups keen to make a difference in their local area. This enthusiasm is being harnessed with education packs for teachers, opportunities for seed collection and using volunteers for tree planting.

Recommendations

a) The Climate Change Advisory Committee is recommended to note the progress made in adapting parks and green spaces for climate change.

Why is the proposal being put forward?

1 In March 2019 the council passed a motion to declare a climate emergency in the city. In doing this the council made a commitment to make Leeds carbon neutral by 2030 in making a contribution to achieving no more than a 1.5^{o}C global temperature increase. Parks and green spaces have an important role to play in meeting this target. Parks and Countryside manage around 4,000 hectares of land in the city of which 2,500 hectares is natural or semi-natural, including around 1,500 hectares of trees and woodland.

2 Parks and green spaces play a role in mitigating climate change by directly helping to reduce carbon dioxide emissions, reduce the effects of extreme weather events, and build more resilient habitats to help sustain species and food production. This role can be summarised as follows:

- Trees and other vegetation remove carbon dioxide from the atmosphere and store carbon.
- Trees in particular help cool down urban centres, provide shade and capture harmful particles.
- Suitable vegetation helps address flood risks by storing and slowing down water flow upstream.
- They provide a range of connected habitats to sustain species resilience and diversity.

3 The key issue to address is how parks and green spaces in Leeds can fulfil this role in a better way. This report therefore sets out how action in Parks and Countryside is being intensified in a way that adapts to climate change whilst continuing to fulfil the key role that parks play in recreation, social cohesion along with promoting health and well-being.

What impact will this proposal have?

Wards Affected:		
Have ward members been consulted?	☒Yes	☐No

4 This report identifies the following areas for intensified action which are each considered in turn:

- Parks and green space management
  - Relaxed mowing
  - Pollinator friendly habitats
  - Cemetery maintenance
- Parks and green space development
  - Investment opportunities
  - Ponds and wetlands
- Tree and woodland planting

5 Parks and Green Space Management: Relaxed Mowing

5.1 Reducing mowing intensity and allowing grassed areas to revert to more semi-natural conditions, reduces energy requirements of grass cutting with fewer cuts along with greater benefits to biodiversity. Where relevant this approach can supplemented by the creation of perennial meadows (allowing native wildflowers to flourish), but this approach does however involve higher costs of establishment and management compared to a relaxed mowing approach.

5.2 An example of relaxed mowing is at Carr Manor Fields, which for many years was subject to flooding which in turn impeded grass cutting operations. In consultation with members and the local community, an alternative approach has been adopted whereby paths are maintained through areas of longer grass that are cut once a year.

Image 1 Carr Manor Fields

Image 2 Illustrated Benefits

5.3 The land that formed Middleton Golf Course has also been transformed from intensive management to a semi-natural landscape. Use of the landscape in this way and incorporating the land into the wider estate has many environmental benefits and has enabled the development of a nationally recognised Middleton Park Urban Bike Park as well as incorporating other recreational opportunities for cycling.

5.4 Following agreement of the 2021/22 budget, colleagues have developed proposals to bring about changes to arrangements for the cutting of grass adjacent to the highway within the Streetscene Grounds Maintenance contract for Leeds from spring 2021. The largest element of the proposed change is to the mowing frequency of primary network roads which typically have a speed limit above 40mph and therefore by law require extensive traffic management each time operatives work adjacent to the carriageway. Grass cutting has become an annual visit in late summer timed to reflect seasonal growth patterns aiming to encourage the formation of native wildflower species seed stock within the verge. In addition we have ceased the mowing of rough grass areas adjacent to country roads whilst ensuring that safety sight lines are sustained. Finally we are reducing mowing on a small number of severe slopes and banked areas that may support the planting of trees as part of the council's approach to meeting the climate emergency and improving air quality. All of these measures will improve the sustainability of our mowing operation, moving closer to alignment with the national Plantlife campaign whilst providing improved habitats for urban pollinator insects and small mammals.

6 Parks and Green Space Management: Pollinator Friendly Habitats

6.1 Leeds has been a part of 'Urban Buzz', a national project to improve 200 ha of land for pollinators. In Leeds, 20 flagship sites were identified (as large as 0.5 ha) with a total of 35 hectares. In addition, 128 'buzzing hotspots' were created which are areas rich in flowers or providing sheltering / nesting opportunities, building species resilience as well as sustaining food provision.

Image 3 Becketts Park (courtesy of Andrew Pomeroy)

Image 4 Bee Hotel Kippax Meadows

6.2 Given the increased numbers of visitors in parks and staffing pressures as a result of COVID-19, a number of beds that would have contained bedding plants have remained fallow. In late April/May these have been planted with a variety of wildflower seed mixes which will mean that there will be wildflower displays in our major and community parks. The longer term plan in line with the budget agreed at full council in February there is a proposal for a 50% reduction in floral decorations in the city centre and seasonal bedding displays mainly in the streetscene environment which provides an opportunity to replace these with wildflower displays.

7 Parks and Green Space Management: Cemetery Maintenance

7.1 Horticultural maintenance of cemeteries can present challenges particularly with traditional and historic memorials of a sufficient age that there are few, if any, visits from family members. The images below illustrate the difficulties in accessing grass cutting machinery in these circumstances:

Image 5 Challenges in Maintaining Cemeteries

7.2 A national charity ‘Caring for God’s Acre’ has developed an alternative management approach that is focussed around conservation and habitat creation. Rather than attempt to sustain close mown grass around historic gravestones, a more creative approach is taken with mown margins and a mosaic of grassland of varying heights to help wildlife flourish. For example:

- Close mown – to encourage ground feeding birds and colourful fungi
- Medium – to help clover and other flowering ground cover plants
- Tall – less visited areas enabling wildflowers to flourish and support pollinating insects

7.3 Two rangers have been recruited to focus on utilising volunteers in cemeteries and to encourage the development of 'friends of cemetery' groups. The rangers are working with 8 'friends of' groups including the newly formed groups at Bruntcliffe Cemetery and Pudsey Cemetery. The number of volunteers has increased following the pandemic restrictions and tasks include traditional wildflower meadow management. The following images illustrate the desired outcome:

Image 6 Caring for God's Acre Approach

8 Parks and Green Space Development: Investment Opportunities

8.1 Most parks feature some play equipment and sealed play surfaces. Management generally involves maintenance and repair of equipment and surfaces and periodic replacement. Damage to play areas due to weather conditions is likely to increase with an associated increase in cost. Warmer, drier, summer conditions will increase the need for more shelter and shade around play. Potential actions to address these issues include changes in materials to improve drainage, play areas with more natural play features and locating play facilities in areas of shelter and shade.

8.2 There are already some examples of this including a play surface has been introduced at a multi-use games area at Queen's Park in Pudsey that is porous and therefore reduces water run-off and puddling which can occur on traditional surfaces. Bark mulch has also been used as a safety surface at East Ardsley Recreation Ground and Holt Park and sand-based play has been introduced at Horsforth Hall Park and The Arium. There is also an example of more naturalistic play which has been introduced at Alexandra Park by arranging sandstone boulders to enable children to climb and explore. Finally, one of the playgrounds at Temple Newsam uses natural materials and has been integrated into the landscape as a key feature of the design.

8.3 Design of playing pitches needs to take full account of the impacts of climate change. This is particularly important when deciding upon drainage solutions for new and existing pitches. A balance is required between maintaining playable conditions and the requirements of sustainable drainage. In some cases pitches can be designed to allow temporary flooding to prevent rainwater in extreme events from accessing housing and other buildings. For example in the Garforth area of Leeds a small bund has been constructed around the south west corner of Barley Hill Recreation Ground as well as Glebelands Recreation Ground sports pitches as part of flood alleviation measures. This allows the pitch area to temporarily store flood water and then slowly release the water into the existing watercourse downstream.

8.4 Parks and green spaces can also incorporate opportunities for more active and sustainable travel. Walking, cycling and the use of public transport are therefore important aspects of climate change mitigation. The promotion of active travel is a local and national priority and

the West Yorkshire Local Transport Plan aims to encourage more non-motorised travel, especially walking and cycling, thereby reducing trips by motor vehicles and encouraging healthy exercise. Leeds Core Cycle Network Project aims to provide routes around Leeds specifically for cyclists each of which is named, with signage. They may form routes to schools, shops or to leisure opportunities but they are primarily aimed at helping cyclists get into work. Parks and green spaces play an important part in developing such routes as they are away from traffic and can often provide a short cut.

8.5 A proposal regarding Temple Newsam golf course to reduce the number of holes from 27 to 18 was agreed at Executive Board in September 2020. The development of a road-safety park, children's play area, walking and cycling trails and other historical, educational and environmental landscape improvements have commenced. Reducing the size of the golf course allows the council to replace some of the close-mown fairways with a more biodiversity-rich habitat including grassland meadows and woodland. It will reduce the city's contribution to climate change and its impact through; using less machinery (for mowing); delivering a net increase in trees on site to absorb carbon, cool the air and provide shade; growing denser vegetation to reduce the risk of local flooding and increasing the diversity of habitats to improve the resilience of local wildlife. Fundamentally, the proposal is also about promoting cycling, road-safety education and encouraging and inspiring people to use more sustainable forms of transport, more often.

9 Parks and Green Space Development: Ponds and Wetlands

9.1 Some public parks and other green spaces have ponds or lakes within them. Some are relatively wild but many are more formal and typically have hard edges, a fairly regular shape and little marginal vegetation. Predicted changes in rainfall patterns will mean that ponds may dry out partially or wholly in hot, dry weather and may flood more frequently in wetter periods. There will be an increased need for new ponds to contribute to sustainable local drainage. There will also be an increased need to capture and retain winter rainfall for use at other times of year and retention ponds may be an option for this. As climate change puts increasing pressure on biodiversity there will be a greater need for ponds and associated wetlands to contribute to biodiversity and local habitat networks.

9.2 There are some good examples where parks and green spaces are being utilised as part of wider strategic projects. The £4.2 million investment into the Wyke Beck Valley flood alleviation scheme will part-fund works in Killingbeck Meadows, Arthur's Rein and Halton Moor, in East Leeds. This will help reduce the risk of flooding to local homes in the area and support further housing growth. The project includes the creation of a flood alleviation scheme at Killingbeck Fields, which would operate as a 45,000 m^3 flood storage area and enhanced public greenspace. Complementary works are already underway at Arthur's Rein and Halton Moor Local Nature Reserve. The work at Arthur's Rein includes 'daylighting' previously buried water courses, along with woven willow to encourage vegetation to grow in Wyke Beck Woods is illustrated below:

Image 7 Arthur's Rein

Image 8 Wyke Beck Woods

9.3 **Tree and woodland planting**

9.4 Trees are a vital part of the natural environment and in removing carbon dioxide from the atmosphere provide oxygen and this vital function forms a crucial role in mitigating the effects of greenhouse gas emissions. They also act as air filters capturing harmful pollutants by trapping them on their leaves and bark and thus improve air quality. Woodlands provide places of escape and connection with nature enabling people to relax and unwind benefitting both mental and physical health. Trees and woodlands are important habitats for wildlife – for small mammals as well as insects. Mature trees provide place to shade and reduce urban temperatures. Trees and woodlands help alleviate flooding in particular by reducing the amount of rainwater entering watercourses and slowing water run-off.

9.5 A study of the tree canopy in Leeds conducted by the University of Leeds concluded that on average 17.1% of the 55,170 hectares that make up the metropolitan district represents tree canopy cover, which is equivalent to 9,434 hectares. The Committee on Climate Change have advised that tree planting rates of at least 30,000 hectares per year will be required in order for the UK to reach net-zero greenhouse gas emissions by the year 2050.

9.6 In February 2020 it was announced by the Leader of the Council that 1,250 hectares of woodland would be created over the next 25 years, with nearly 6 million trees planted on council land. Despite all the issues faced with the coronavirus pandemic, it was possible to identity suitable areas in parks and green spaces over the summer of 2020 in consultation with ward members and other interested groups.

9.7 As part of the programme education packs have been developed for teachers to use with the Arium as a hub to include information about seed gathering, germination, establishment and the wider benefits trees to the environment. Countryside rangers in Parks and Countryside have worked with local schools and volunteers to gather seeds which were sent to the Arium for stratification and growing on to be subsequently replanted. Altogether The Arium will have in production around 1 million trees each year at various stages of development ready to be planting.

9.8 Over the winter of 2020/21, around 225,000 trees were planted. Despite budget pressures over the next 4 years, £2.4 million is being allocated from the capital programme to plant a further 50 hectares each year. This will play an important role in mitigating the effects of climate change, as well as benefit pollinators, wildlife and enable people to connect with nature with enhanced recreation value. Consultation on site identification with local ward members and other groups is well underway and there is a dedicated website for anyone interested in further information: https://www.theariumleeds.co.uk/woodland-creation.

What consultation and engagement has taken place?

10 It is important to note the important contribution that local communities provide in terms of practical volunteering work with an estimated 29,000 volunteer days each year, equivalent to around 109 full-time equivalent staff. The Leeds Parks and Green Space Forum, established in 2012 aims to engage more local people in caring for parks and green spaces and has around 120 members representing 85 different organisations. A number of examples of further volunteer contribution opportunities have been cited throughout this report including the following:

- Tree and woodland planting
- Helping create pollinator friendly habitats
- Cemeteries
- Flood alleviation

11 The climate emergency declaration has already sparked considerable interest from local ward members and community groups keen to make a difference in their local area. This shared commitment and enthusiasm will be vital in helping to lead change and gaining a shared understanding of the benefits that the proposals and illustrated examples can bring when turned into action.

12 Community committee environment sub-groups have been consulted with regard to the general approach adopted and broader consultation is undertaken with regard to more specific developments that take place. Individual ward member sessions have taken place with regard to sites identified for woodland creation which has also involved interest groups where appropriate.

What are the resource implications?

13 The alternative approaches to parks and green space management and development do have some resource implications, however it is not anticipated that there will be significant cost savings arising from these proposals and in some cases funding provision may be necessary which will be dealt with on a project by project basis. Over the next 4 years, £2.4 million is being allocated from the capital programme to plant a further 50 hectares of trees each year supplemented by external funding where this is available.

What are the legal implications?

14 There are no legal issues identified with this report or with access to information.

What are the key risks and how are they being managed?

15 There are no key risks associated with this report.

Does this proposal support the council's 3 Key Pillars?

☒Inclusive Growth ☒Health and Wellbeing ☒Climate Emergency

16 Inclusive growth is supported by using alternative management approaches to help improve the quality of parks and green space and thus make them more attractive to visit. There are proven benefits to health and wellbeing in providing greater contact with nature and expanding volunteer help people to gain confidence and skills to enable them to seek employment.

17 This proposal supports the response to the climate emergency by contributing to the aim of planting 50 hectares of woodland in 2021/22 and each year thereafter.

Options, timescales and measuring success

a) What other options were considered?

18 This report outlines overall approach to managing parks and green space along with specific decisions that arise and in particular the woodland creation programme.

b) How will success be measured?

19 Parks and green spaces will continue to be assessed against the Green Flag standard which is the national standard for measuring green space quality. The woodland creation programme has a target of 50 hectares to be planted each year and for this to be achieved it is important that investment continues to be identified via the council capital programme.

c) What is the timetable for implementation?

20 The woodland creation programme is a long term initiative to plant nearly 6 million trees over 25 years. The approaches outlined for changing parks and green space management are part of an ongoing process.

Appendices

21 None.

Background papers

22 None.